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Original Articles.

SOME UNAPPRECIATED CAUSES OF ANEMIA IN CHILDHOOD.*

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PHILADELPHIA.

The time was when the child's physician was called only to the acute troubles of childhood, the chronic sufferer drifted on, handicapped by a host of physical imperfections until an acute disorder would terminate the child's life. In many cases of milder specific diseases the child is left to fight its way back to health, scarcely reaching, unfortunately, its original vigor.

DENTITION.

Primary dentition, a physiologic process, is often a time of ill health and suffering to the child, but when this is complicated by the administration of improper food, irregularly given, which sooner or later disturbs the child's balance, we frequently find the little patient markedly anemic at the end of this period.

For the last few years my attention has been constantly drawn to some of the unrecognized, or at least, unappreciated causes of anemia in growing children. We know the anemias of the acute diseases and specific blood changes; of these I do not wish to speak. I have long felt that the gastrointestinal tube was at fault more than the effect of irritating food, and that these conditions might be avoided if the child possessed a clean mouth and if its personal hygiene was all that we could desire.

DENTAL DECAY.

The great primal cause of anemia in children, and the factor least recognized and yet most prevalent, is dental decay. While the majority of children's physicians are alive to this source of infection, the mass of general practitioners pay but little attention to this important factor, and hence, not until the child becomes markedly anemic and has associated with it, by reason of this lowered resistance many complicating troubles, do they awake to a realization of its importance. Dental decay furnishes more cases of anemia, is more prevalent, is least appreciated of all the disorders of childhood. In a child from 6 to 10 years of age it is a very common thing to find teeth in an advanced state of decay, with a condition of pus formation and general septic involvement of the whole alimentary canal. Too little attention is paid to saving the first teeth. If careful attention is not given to them a general hyperemia of the oral cavity occurs, with numerous alveolar abscesses, which empty their pus contents into the stomach. Bad teeth prevent thorough mastication, and in this way contribute materially to a deranged gastrointestinal tract. A general catarrhal inflammation is created that renders the child irritable, provoking a severe trial to his disposition, if not changing his temperament, and thus laying a foundation for anemia which will require years of correct living to outgrow. I have watched a great many children at this age, during the period of second dentition, and have found their mouths, with few exceptions, in a septic condition. This pathologic condition could not exist in any other portion of the body without comment or immediate correction. It goes on, however, in about 90 per cent. of all children, at this age, uncorrected, unnoticed.

In children with weak digestion and irritable dispositions we are constantly correcting their habits or administering moral suasion instead of removing the pus generating, foul, decaying teeth. The surgeon will wash his hands and sterilize his patient before an operation on the mouth, jaws or stomach, yet at the same time the mouth of this patient will possess numerous pus-producing fountains. An interesting question to be settled by the physician in the future is to what degree the broken health or perverted disposition of children can be traced to decaying teeth with their contributing pus streams to the system.

It has long been a serious question whether gastrointestinal catarrh could ever be removed. If a septic oral cavity continues for several years we feel quite sure the individual can scarcely regain his usual vigor. A child thus loses the high standard he is entitled to because this essential of his growth is ignored. Nothnagel[1] calls attention to the following trite truth regarding catarrhal inflammation: First, a real cure of an acute catarrh can only be brought about through the regenerating processes going on in the organism or the affected tissues. Second, complete recovery is only possible in acute catarrh. The second point is especially emphasized and the assertion is made that a chronic intestinal catarrh is incurable. It is therefore of the utmost importance to prevent the acute catarrh from becoming chronic. This can be accomplished not so much by medication as by careful regulation of diet and regime and careful toilet of the teeth. With carious teeth in early childhood we will have imperfect digestion, and with defective digestion we will soon have gastrointestinal catarrh and its accompanying anemia. Second dentition is fraught with tremendous import-

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1. Praktitscheski Vratch, vol. i, No. 7.

ance; the rapid development of the whole body, especially the unstable nervous system, makes it a season of great watchfulness and not least among the many clashing elements to engage our attention are the teeth, rapidly undergoing decay and being replaced by new ones. Neglect of a proper toilet of the teeth will bring us stomatitis of every degree of intensity: ulceration sloughings, gangrene, pyorrhea alveolaris. In the jaws, by extension, we will frequently find periostitis, alveolar abscesses, necrosis; and in the soft parts in the neighborhood of the mouth, by continuity of structure, we find by reason of the septic condition of the mouth, recurrent tonsillitis, pharyngitis, otitis, glandular inflammation, cellulitis, and possibly meningitis by direct extension. The coroner of Philadelphia, a medical man, some years ago informed me in a conversation that fully 50 per cent. of the cases of death in young children falling under his observation were due to oral sepsis. This contribution to the anemias of childhood by reason of decaying teeth is, in my mind, preventable. Dr. William Hunter, in his admirable essay on oral sepsis, makes this startling yet unappreciated statement, that dental caries is the commonest and most prevalent infection in the body, and that this infection is of a mixed character, including not only the harmless organisms, but also the most active pathogenic blood poisoning organisms, namely, the streptococci and staphylococci.

NASAL STENOSIS AND MOUTH BREATHING.

The second unrecognized factor in contributing to the anemia of childhood is breathing through the mouth, due to nasal stenosis. Stenosis of the nose is a most frequent inheritance of the infectious diseases. Whooping cough, measles and influenza contribute a large percentage of such cases, the catarrhal inflammation having fastened itself on the mucous membrane of the nasal chambers during the process of the disorder, the hypertrophied turbinated tissue serving to block the channel. The careful toilet of the nose during the acute catarrh will serve to bring this tissue under control. The constitutional effect of mouth breathing is familiar to us all. The flattened chest, vacant look, open mouth, dull intellect, due to deficiency of oxygen to the system, must bring on anemia. This condition is quickly recognized by the specialist, but the children's physician should also early inform his patient so as to prevent it by careful and early training.

EYE STRAIN.

Another frequently unrecognized factor in producing anemia in growing children is eye strain. A child's school life is one of artificiality. They read in school with "political" print, poor light and defective ventilation; this has brought many children to wearing glasses. Some years ago in making a comparative study of letter press used in school books throughout the world, it was discovered that the German text afforded 10 per cent. more defective eyesight in the young than the English print. If correction of this eye strain could be quickly brought about we would save a long train of suffering for the young child; but for years the child is treated for catarrh of the stomach, headache and nausea and a long train of discomforts due to car riding or crowd sickness, while the unstable condition of the eye muscles is really at fault. Finally, the eyes are corrected and this long train of symptoms vanishes, not, however, until the nervous system has long been unbalanced, shocked by headache, and a train of toxemias, generated by the unstable system, has poisoned the blood and anemia is the result.

CONCLUSIONS.

From this brief outline I can conclude that the mouth in children is most frequently unhygienic, giving rise to gastrointestinal troubles; remote infectious diseases are common, including all troubles due to pyogenic organisms, as osteomyelitis, ulcerative endocarditis, empyema, suppurative meningitis, suppurative nephritis, not to exclude the more obscure septic conditions characterized by irregular fever, purpura, bleeding gums and various toxic conditions. Again, we must recognize the fact that there must be a limit to the power of the stomach to cope with a constant stream of pus pouring into it from the decaying teeth. The acid of the gastric juice may destroy the toxic influence for a time, but it is eventually overwhelmed and ill health the result. Again, asepsis of the mouth of the child (adult also) is as much to the physician as is asepsis to the surgeon—a necessity to life and health.

DISCUSSION.

DR. I. A. ABT, Chicago—This paper brings home to us very forcibly the need for the proper care of the teeth. However, so far as the causation of anemia is concerned, we must consider the subject in a broader sense. Secondary anemias are to be regarded as symptoms of a variety of diseases. While it is true that diseases of the upper intestinal tract may produce blood changes, still we must look for the cause of the anemias in some change in nutrition or metabolism or some more serious disorder in the disposition of the food or in some grave toxemia, which, perhaps, has its seat in the intestinal tract. By absorption through the lymph channels toxins may produce profound changes in the blood. When one calls dentition, decaying teeth and eye-strain causes of anemia there are undoubtedly some of us who dissent from such views.

DR. JOHN LOVETT MORSE, Boston—There is no doubt, of course, that dental caries and eye-strain may be causes of anemia in children. The author of the paper has, however, made a number of statements which I think it would be very difficult for him to prove. He says dental caries is the most common cause of anemia in childhood. How can he tell in a given child whether it is the decay of the teeth, inherited weakness of constitution or the environment, for example, which causes the anemia? How can he tell whether indigestion is secondary to decayed teeth, decayed teeth to indigestion, or both to improper food? I fear his argument is "*post hoc, propter hoc.*" Dr. Hollopeter tells us, moreover, that 90 per cent. of all children have dental caries, and yet I think that even he would not claim that 90 per cent. of all children have anemia. I think the pathologic changes do not, as a rule, go on in children to a chronic gastrointestinal catarrh; the condition is rather a disturbance of digestion, not a distinct catarrh. Again, I do not see how eye-strain can really "poison the blood"! If so, the process must be a very indirect one.

DR. J. C. COOPER, Philadelphia—I appreciate what the author has said regarding the fact that decay of the teeth frequently produces anemia. The child is naturally more rapid in chewing, and the toxic conditions may be contributing causes. I recall a case of a boy who had been suffering for some time with poor teeth, and who for some time previous to my seeing him had been in an anemic state. He had also contracted the tobacco habit, and although not quite 9 years of age he had begun to chew tobacco, in order, as he said, to relieve his toothache. This tobacco habit, with the gastrointestinal catarrh, made it impossible to cure him. He died of some meningeal inflammation of a peculiar type associated with malassimilation. It seemed to me that many anemic conditions could be explained by some form of nerve strain or nerve tax. I have seen a great deal of anemia in children who have been allowed or encouraged to take part in public addresses and public entertainments. Just what effect public speaking has on the nerve centers and digestive function is uncertain, but it certainly makes the child peevish and interferes with

its proper nourishment. Such a child becomes anemic. It is rather difficult to say how well a child can dispose of purulent conditions in the mouth. Experience would indicate that strong children can take care of a good deal of this. In my experience anemia has been usually associated with some perversion of the nervous system of the child together with improper food which should have been corrected early.

DR. A. C. COTTON, Chicago—Though appreciating the positions taken by Drs. Abt and Morse, I think we all agree with Dr. Hollopeter in some of his conclusions, and with the remark of the last speaker that anemia in children is not infrequently the result of poor hygiene. I believe it can be demonstrated that improved hygiene in such children will result in an improved condition of the blood. All will admit that a child suffering from dental caries is in a condition of poor hygiene, for perfect digestion of food can hardly go on under these circumstances. Again, adenoids or mouth breathing, by causing shallow respiration and insufficient oxygenation of the blood, undoubtedly lead to anemia. We have all seen cases in which after operations for increasing the capacity of the upper respiratory tract an improved state of the blood has resulted. We can not measure the infection from the gastrointestinal tract, but clinically we must respect the possibility of the decomposition of the gastrointestinal contents, with consequent intoxication. No one will contend, I think, that infection is compatible with good blood conditions, so that although all of the steps from the premise to the conclusion have not been established by Dr. Hollopeter, I believe all the statements made in the paper are demonstrable clinically.

DR. MORSE—I think my remarks were somewhat misunderstood. I do not deny that dental caries, interference with the air supply and even eye-strain may indirectly cause anemia; what I did dispute was the statement that dental caries is the most common cause of anemia in childhood.

DR. C. G. KERLEY, New York—My work for the past fourteen years has brought me a great deal among the out-patient poor in New York City, and among them I have met with a great many cases of anemia. In the majority of cases it has seemed that the anemia was dependent on improper feeding in the second year of life. We hear very little, indeed, about how the baby should be fed in this period, and this is usually left to the family or nurse. These children are often fed to a great extent on crackers and bread, and the milk is not of good quality. If we paid more attention to the feeding of run-about children, and saw that they were fed sufficiently on proteids and not too much on starches there would be much less anemia.

DR. J. P. CROZER GRIFFITH, Philadelphia—The speaker has not mentioned the fact, of course known to him, that rachitis, although extremely common in childhood, is constantly overlooked, and is an important cause of anemia. Since it also predisposes to the early decay of the teeth, it is possible that both the dental caries and the anemia are the result of the same cause, rather than that the former produces the latter.

DR. HOLLOPETER—I did not try to cover the whole ground in my short paper, and hence I endeavored to merely call attention to a generally neglected part of our work, i. e., the toilet of the child's mouth. The highest percentage of oral sepsis comes from England; if I remember correctly it was so stated by Dr. Hunter.

Carbolic Poisoning by Vaginal Douche.—At the Orleans Parish Medical Society meeting, Nov. 22, 1902, Dr. Fenner described a peculiar case of carbolic acid poisoning in hospital. The patient was being given a 2 per cent. carbolic solution as a vaginal douche, and while the nurse's back was turned, removed the nozzle, but on being admonished replaced it (as the nurse thought) in the vagina. Suddenly she collapsed and sank into unconsciousness, the pupils became contracted, the pulse thready and the patient had a number of convulsions. The interne being summoned and recognizing the probability of absorption per rectum dilated the sphincter ani. Thereon there was a gush of the carbolic solution, showing that the patient had placed the nozzle in the rectum instead of the vagina. Irrigations of magnesium sulphate were given and atropin in large doses administered hypodermatically. The patient recovered.

RETROPHARYNGEAL ABSCESS IN INFANCY.*

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BOSTON.

Retropharyngeal abscesses are usually divided into two classes: primary, or idiopathic, and secondary. The secondary class is made up of those due to disease of the vertebræ and of those due to the direct extension of abscesses from neighboring parts. The primary form is infinitely the more common in infancy and is the only one to be considered here. The greatest number of cases occur between four months and one year; 83 per cent. of Bókay's cases were under two years and 75 per cent. of Holt's under one year.

ANATOMY.

The retropharyngeal lymph nodes form a chain on both sides of the median line of the pharynx extending from its upper portion to its junction with the esophagus. They lie between the prevertebral aponeurosis and the muscles of the pharynx. In infancy they drain the cavities of the cranium, pharynx, nose and middle ear. They are said to atrophy after the third year and in some instances to disappear entirely.

MORBID ANATOMY.

Enlargement of these lymph nodes is called retropharyngeal adenitis; suppuration, retropharyngeal abscess. This form of retropharyngeal abscess is that which is known as primary or idiopathic. Both retropharyngeal adenitis and abscess are very seldom truly primary, however, but are almost always secondary to inflammation of some of the cavities drained by these nodes. In some cases infection seems to follow inflammation of the mouth. The pathology is the same as that of adenitis and suppuration of the external cervical lymph nodes. Several nodes are usually involved in simple adenitis, but suppuration rarely takes places in more than one. Suppurative inflammation is accompanied by a cellulitis of the surrounding tissues. Very few bacteriologic examinations of these abscesses have been made. It is probable that any of the pus-forming organisms may cause them. Koplik, however, found streptococci in all his cases. Bókay has reported a case due to the tubercle bacillus.

Retropharyngeal abscess is, as already stated, always preceded by retropharyngeal adenitis. The symptoms of retropharyngeal adenitis are in no way characteristic, being very similar to those of nasopharyngeal catarrh. Fever is generally slight at first, but usually rises with the progress of the disease. Inspection shows nothing definite in the throat, but the enlarged nodes are easily felt by the finger. It is probable that resolution of these nodes, as of similarly inflamed nodes elsewhere, frequently takes place. There is little or no data on this point, however. Suppuration, when it occurs, usually develops in from five to six days. Originating as it does from a single gland situated to one side of the median line, the abscess is in the lateral wall rather than in the back of the pharynx.

SYMPTOMS.

The symptoms of retropharyngeal abscess are usually preceded by those of retropharyngeal adenitis, which, as already stated, are much the same as those of nasopharyngeal catarrh. With the advent of suppuration the

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temperature usually rises and becomes more irregular. The first symptom directly due to the abscess which is usually noted is unwillingness to take food or difficulty in swallowing. In the beginning this is probably due to pain, later to the mechanical obstruction of the tumor. Modification of the voice and difficulty in respiration next develop. These vary according to the location of the tumor. If the abscess is in the upper portion of the pharynx the cry is nasal and nasal respiration is chiefly disturbed. The mouth is kept open and the breathing is snoring and snuffling. If the abscess is low down the cry is laryngeal and the respiration is stridulous, like that in laryngeal spasm or stenosis. In these cases the respiratory murmur is diminished locally and many moist râles are heard. These may be due to a complicating bronchitis, but are usually the result of the interference with respiration. In the acute cases the head is held in a most characteristic position from the first, the neck being extended and the head turned to one side. In the subacute cases this may not appear for some time. Swelling of the lymph nodes at the angle of the jaw on the affected side soon develops and may become very marked. The following case is a very typical one:

CASE 1.—Francis L. was nursed for five months. As his mother developed erysipelas he was taken off the breast and put on condensed milk. This caused a slight diarrhea and occasional vomiting. He also developed a "cold in his head." About a week after he was weaned he began to swallow with difficulty. A day or two later it was noticed that he kept his mouth constantly open and could not breathe through his nose. He was seen a week later. He was then taking almost no food and was unable to breathe at all with his mouth closed. He had lost much weight and strength. Both inspection and palpation showed a bulging of the left side of the pharynx, most marked in the upper portion, almost filling the throat. Incision let out about two drams of pus and afforded almost instant relief.

DIAGNOSIS.

Although the symptoms of retropharyngeal abscess are usually so characteristic they are very frequently misinterpreted. If the obstruction is high up they are most often mistaken for those of a simple pharyngitis or rhinitis. Sometimes diphtheritic paralysis is suspected. If the obstruction is low down they are often ascribed to laryngitis, catarrhal or diphtheritic. In a number of cases which I have seen, one of which is reported later, the signs in the lungs have caused the condition in the throat to be entirely overlooked and have led to the diagnosis of bronchitis or bronchopneumonia.

The chief reason that a retropharyngeal abscess is so often overlooked is that it is not thought of, and hence is not even considered in the differential diagnosis. Another reason is that inspection of the throat is trusted and palpation omitted. Inspection, however, is often insufficient and may lead to grave errors in diagnosis. In the majority of cases the tumor is visible, but not infrequently, especially if low down, it can not be made out. It can always be felt if present, although if it is situated low down the finger must be introduced very deeply. In no case in which the symptoms in any way suggest a retropharyngeal abscess should palpation of the throat be omitted. It causes the infant only temporary discomfort and may prevent very serious mistakes in diagnosis. The swelling is usually situated in the side of the pharynx, but may be at any level. It is either tense and elastic or fluctuating. If the condition is simply an adenitis the lymph nodes are felt as hard masses, round or oval in shape, and varying in size from that of a pea to that of a large bean. The examination of the throat is best made with a tongue depressor and not with a gag, as Snow had a case in a boy of 15 months in which death immediately followed the introduction of a gag. Holt had a similar case of asphyxia on the introduction of the gag, but his case recovered. The death and asphyxia were probably due to some disturbance of the vagus, as the abscess was not ruptured in either case.

In some rare instances a sudden attack of dyspnea may be the first symptom to call attention to the local condition. In others a small abscess may develop so insidiously as to cause neither general nor local symptoms. The following case is an example:

CASE 2.—Charles P. was born Oct. 31, 1899. There was no history of syphilis in the parents and there had been no miscarriages. He was well for the first six weeks except that he had a purulent nasal discharge. He then had a discharge from the right ear lasting four days. About that time he began to have convulsions which continued up to the time of his entrance to the Infants' Hospital, Jan. 5, 1900, when nine weeks old. He had always had more or less disturbance of the digestion and had never gained properly.

He was small and flabby. His head was microcephalic. He had snuffles and kept his mouth open. He swallowed without difficulty. The ears showed nothing abnormal. The physical examination was otherwise negative.

He had no more convulsions and developed no new symptoms. The temperature was normal, and there was no increase in the rate of the pulse or respiration. On January 10, in the course of a routine examination preparatory to showing him at a clinic, a marked bulging was found on the right side of the pharynx. The abscess was opened on that day by Dr. Augustus Thorndike and a small amount of pus let out. A second opening was necessary on January 13. The throat was normal on January 16.

PROGNOSIS.

The prognosis depends largely on the treatment. In untreated cases the usual termination is death. Death may occur slowly as the result of progressive weakness or asphyxia, but more often suddenly from laryngeal spasm or some disturbance of the function of the pneumogastric nerve. The abscess seldom opens spontaneously. This happened but 19 times in Bókay's 144 cases. If it opens spontaneously into the pharynx death may result from suffocation or from a consecutive inspiration pneumonia. The pus may burrow in various directions. In some instances the carotid artery has been opened; in others the abscess has opened externally. In a number of cases it has discharged through the middle ear. In a five-months-old baby which I saw with Dr. Augustus Thorndike at the Infants' Hospital, it ruptured into the external auditory canal just external to the tympanum. The prognosis in cases which are properly treated, that is, by incision, is very different, however, the mortality in such cases being only about 5 per cent.

The following case is a fair example of the results of operation:

CASE 3.—George T., 13 months old, began to refuse his food February 24. He was feverish and lost weight rapidly. He did not vomit and his dejections were normal. He was brought to the out-patient department of the Infants' Hospital on February 28, where the following note was made: Fairly developed and nourished. Pale. Puffiness of face under right angle of jaw and also of folds of neck. Tonsils large, but not markedly red. No exudate, no membrane. Percussion of lungs normal throughout. No bronchial respiration. Many coarse moist râles throughout both lungs. Looks septic.

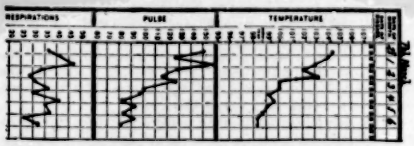
The diagnosis of bronchitis was made and he was admitted to my service the same day. The physical examination, made soon after, was, so far as it is important in this connection, as follows: Appearance septic. Puffiness about the eyes. Consider-

able general, soft, non-fluctuant swelling in the right neck from about the angle of the jaw, extending forward over the neck to just beyond the median line and downward over the clavicle. Respiration somewhat difficult. Movement of alæ nasi with respiration. Mouth open. No retraction of suprasternal, supraclavicular or intercostal spaces. Percussion of lungs normal. Respiration of normal character but diminished in intensity. Numerous moist râles throughout both chests, both back and front, many of them being transmitted from the throat. The throat was full of thick mucopurulent material which rendered examination difficult. Inspection showed swelling of the right tonsil and pharynx behind the tonsil. Palpation showed that the right tonsil was pushed forward by a swelling in the pharynx behind it. It extended downward to the level of the larynx.

A knife was introduced into this swelling and somewhat over a dram of pus evacuated. Respiration became easier at once. The neck was poulticed and vigorous stimulation begun.

The general condition was somewhat better on the next day. He still had some difficulty in swallowing, but breathed much better. The swelling in the throat was somewhat less, and not nearly as tense. The external swelling was unchanged.

On March 2 the lungs were clear, the swelling in the neck was much less and the swelling in the throat smaller. The cry was strong and the breathing nearly normal. On March 4 he swallowed without difficulty, and on March 6 sat up in bed of his own accord. The swelling, both of the neck and in the throat, had nearly disappeared at this time.



TREATMENT.

Cold applications to the neck are advised for the treatment of retropharyngeal adenitis. It must be very seldom, however, that this condition is recognized early enough to offer much hope for the success of abortive treatment. It is much more reasonable to endeavor to hasten the almost inevitable suppuration by the use of poultices and hot applications to the throat. Spontaneous evacuation should not be awaited. The abscess should be opened as soon as the evidences of suppuration are present.

Certain authors advise operation through the neck on the ground that an internal incision affords less efficient drainage, is more likely to close up and offers more opportunity for secondary infection. These arguments are undoubtedly correct. Drainage is less efficient in the internal operation, and second or even third incisions are sometimes necessary. The very favorable results of the internal operation show, however, that these objections are not important. Secondary infection is, moreover, extremely unusual. On the other hand, the external operation is a delicate one and requires a skilful surgeon and assistants, while the internal incision can be performed by any physician at any time without skilled assistance. Moreover, the external operation requires dressing and leaves a scar, while the internal calls for nothing but cleansing of the mouth and the occasional expression of the contents of the abscess with the finger.

The incision is best performed with the infant in the upright position. If it is tipped forward the instant the incision is made there is no danger of the pus entering the air passages. The knife should be guarded except at the point. A gag should not be employed because of the danger of sudden death from its use, but the mouth held open with the finger or a tongue depressor. The abscess should be squeezed once or twice a day with the finger in order to keep up drainage and to prevent the opening from closing. Repeated incisions are sometimes necessary. It is also well to wash out the mouth from time to time with some mild antiseptic solution.

DISCUSSION.

DR. I. A. ABT, Chicago—I have been, in times past, impressed with the relative rarity of this disease. It might be said, perhaps, that we do not recognize the condition, but those of us who have spent some time in the larger European cities, and particularly Vienna, know that it is almost of weekly occurrence to see these abscesses at the clinics. In my own city it has been rather rare to see these cases. In the past winter I saw a little baby in the children's ward of the Cook County Hospital suffering from respiratory obstruction. The mouth was open, the child was snuffling and there was more or less fever. It occurred to me that there might be a retropharyngeal abscess, and on introducing my finger I found a mass as large as a hickory nut lying to one side of the median line. I asked the hospital physician to make an incision, which he did on several occasions, but there was no discharge of pus. The case proved one of the non-suppurating variety of retropharyngeal adenitis. The mass disappeared in ten days or two weeks. In several cases that I have operated on a small incision has been made with a guarded knife, the artery forceps being used later to dilate the incision after the first escape of pus.

DR. ROSA ENGELMANN, Chicago—I should like to ask whether simple incision of a tubercular adenitis would cure that condition.

DR. J. LOVETT MORSE, Boston—I personally have never seen a case of primary tubercular retropharyngeal adenitis, and I have found only one case reported in the literature. About a month ago a gentleman in New York reported a case that he had seen. That case had been treated by incision, and had done well.

DR. F. E. FRONCZAK, Buffalo—Three or four months ago I saw a baby of about nine months with an abscess which I was about to open. As I pressed on the abscess preparatory to an incision it suddenly threw its head back and died despite all efforts at artificial respiration. I tried the Laborde and other methods of resuscitation, but in vain. I suppose that pressure on the vagi might have caused the death in this particular instance. I believe that the introduction of the finger and the pressure downward is dangerous on this account. Even if death does not ensue from the pressure on the vagi, there is always danger in holding the baby's head up, in the possibility that the pus may enter the trachea. I believe that the baby should be held head down.

DR. J. L. MORSE, Boston—I believe I mentioned the only two cases on record of sudden death in this class of cases, and in both of these a mouth gag was used. There is, of course, a certain element of danger in opening the mouth in the internal operation, but it does not count for much in comparison with the advantages of this operation.

DR. C. G. KERLEY, New York—In 1890 another case occurred in the New York Infant Asylum at Mount Vernon, N. Y. The case was reported by Dr. H. E. Tuley several years ago. I introduced my finger and made considerable pressure with the intention of opening the abscess, when the child suddenly stopped breathing. I promptly inserted an intubation tube and performed artificial respiration, the child being held head downward. That child recovered, and, so far as I know, is living to-day. I believe that the pressure made by the finger caused the abscess to dissect downward, producing sufficient pressure on the larynx to obstruct the breathing. Intubation unquestionably saved the patient's life. I have seen ten or twelve cases of retropharyngeal abscess, one of them being a double abscess. This child came to me at the New York Polyclinic. There was retropharyngeal adenitis on one side and an abscess on the other side, which we opened. Five or six days later an abscess formed at the site of the adenitis and was opened.

DR. J. P. CROZER GRIFFITH, Philadelphia—I wish to call attention to the great ease with which the diagnosis is made in the typical cases, and also to the very great tendency to overlook these cases because they are not thought of. The peculiar position of the head and the sputtering respiration are so characteristic that the attention should at once be directed to the possibility of retropharyngeal abscess being present. I was called a year and a half ago to one of the suburbs of Philadelphia to see a case in the practice of a very busy and able practitioner. He had never before seen an instance of retropharyngeal abscess, and consequently and naturally did not recognize it, although the aspect of the child was perfectly typical. In another instance the abscess was on the point of bursting externally, and yet the attending physician had never thought of examining the pharynx, as the affection appeared to be a submaxillary adenitis. This case was opened externally because it was pointing in this direction. A probe was afterwards easily introduced from the outside to the posterior wall of the pharynx. To neglect operation in cases of retropharyngeal abscess is a most serious mistake. When the operation is done it should be done thoroughly, a free incision being made and the opening being then dilated, so as to secure drainage. A small incision may easily close within twenty-four hours, allowing the symptoms to return. I have seen this filling up happen several times in the same case.

DR. J. V. KOPRON, Cleveland, Ohio—It seems to me hardly possible that pressure on the abscess is the cause of the sudden death in the cases reported. Dr. Kyle has, on several occasions, in my presence, cut the pneumogastric on one side during an operation, and this has not caused death or any severe shock.

DR. FRANK X. WALLS, Chicago—It seems to me that children of the lymphatic constitution would be very apt to die in this way, and that perhaps this explains the sudden death in the reported cases. These abscesses would be apt to occur in such children, and the administration of chloroform or the throwing backward of the head is said to predispose to sudden death. In my opinion, the lymphatic constitution would explain the sudden death better than the theory of pressure on the vagus.

DR. JOHN LOVETT MORSE, Boston—I do not feel competent to answer this question, for I am rather skeptical as regards the lymphatic constitution. These cases are to me very obscure, and I do not feel satisfied with the lymphatic constitution as an explanation. In order to show how common retropharyngeal abscess is and how often it is overlooked, I may say that I have had three casese of retropharyngeal abscess admitted to my hospital service in two days, the abscess not having been made out previously in any one of them.

SPONTANEOUS HEMORRHAGES IN NEWBORN CHILDREN.*

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Hemorrhages into various tissues and organs and from mucous surfaces are observed in newborn children. Two varieties occur: 1, Traumatic or accidental hemorrhage; 2, spontaneous hemorrhage.

The traumatic or accidental hemorrhages are due to external causes. The pressure exerted on the head during a long sojourn in the narrow birth channel is one of the most frequent causes. The trauma thus incurred may give rise to hemorrhage between the pericranium and the cranial bones, causing cephalohematoma, or the hemorrhage may occur within the cranial cavity into the brain or meninges. The application of forceps is not an infrequent cause of intracranial hemorrhage. Spencer,[1] who had an opportunity to study 130 cases at autopsy, concluded that this was one of the most common causes of this deplorable accident. Nevertheless, the asphyxia which results during the birth of a child and the congenital weakness of the vessel walls must be regarded as predisposing factors in the production of hemorrhage. At times, however, the violence exerted by the use of the forceps, or the pressure on the head by the maternal parts is so great as to result in rupture of vessels of whatever strength.

Spontaneous hemorrhages are not caused by any injury received during the act of birth. The bleeding is apparently spontaneous in origin, and consists of an oozing from the smaller vessels, or of more extensive hemorrhage from the mouth, stomach, the bowel or the umbilicus. The hemorrhage may occur subcutaneously; it may issue from the nose, the ears, the conjunctivæ, the vagina or into any of the internal organs or serous cavities. The bleeding usually occurs from more than one location, though, in the milder cases, there may be but one bleeding point.

During the past few years I have seen a number of cases of spontaneous hemorrhage, either in hospital practice or in consultation. These records are more or less complete, those seen in hospital practice being the more carefully summarized.

CASE 1.—Baby Johnson, born Feb. 2, 1900, male; weight, three pounds and four ounces, at birth. The child was immediately placed in the incubator. It was put to the breast at 3 o'clock the following morning, and nursed well. A hemorrhagic spot the size of a twenty-five-cent piece was noted over the spine at birth; small purpuric spots were also noticed, distributed over the entire face. After passing meconium, the child weighed three pounds and two ounces. Its maximum temperature on February 2 was 101.

On the day following its birth, some hemorrhage was noted around the child's navel; its skin seemed shriveled. The spot over the spine had increased to the size of a dollar. It passed a good night. Urine was highly colored and meconium had an offensive odor.

On February 4, the oozing from navel continued. The child's maximum temperature on this day was 101.1. Odor of stools still offensive. The hemorrhagic spot on back had increased to the size of a small saucer and covered the entire back. On this day there was hemorrhage from the nose, mouth and the vomitus contained blood. Child not able to nurse and was much jaundiced. February 5: The child had passed a very restless night and had cried as if in great pain. It was not able to swallow food, and the general oozing still continued. It died on the morning of this day, at 7:40 o'clock.

Autopsy.—The autopsy in this case was made by Dr. Alice Hamilton, professor of pathology at the Northwestern University Woman's Medical School. Her report is as follows:

Child is emaciated, skin jaundiced and wrinkled, abdomen prominent. A large purplish area occupies lumbar region and extends to sacrum; the scalp also shows a purplish discoloration. The umbilical cord is dry and a dry blood clot covers the stump of the cord. The thoracic cavity is empty, the thymus not enlarged, pleuræ normal. The lungs are smooth, crepitant; on the edges of upper right lobe are noted two small hemorrhagic spots, each the size of a bean; small hemorrhagic spots are also seen on the under and lateral surfaces of lower lobe of right lung. Throughout the lungs are distributed numerous tiny ecchymotic spots. The cut surface of the lung shows congestion. The pericardial sac is normal; the heart is apparently normal, the foramen ovale is closed. The abdominal cavity is empty, the liver is smooth, gall bladder empty. Cut surface of the liver shows greenish color; the lobular markings are indistinct. The spleen is hard, dark red in color, rather large; malpighian bodies prominent, capsules not thickened. Kidneys lobulated, yellowish green in color; the capsules slightly thickened, but strip off easily. A section of the adrenals shows congestion or hemorrhage in center; the margins are yellowish-green in color. The stomach is empty, showing small ecchymoses in mucosa. The intestines are partly filled with

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Diseases of Children, and approved for publication by the Executive Committee: Drs. Edwin Rosenthal, H. M. McClanahan and Samuel W. Kelley.

semi-fluid, brownish matter. The large intestine shows ecchymotic spots. The bladder is full of urine and there are small pin-point ecchymoses into mucosa. The spinal canal is full of clotted blood, there are slight hemorrhages into meninges, the brain is very soft, but there are no gross lesions.

Histology.—The histologic examination reveals a parenchymatous inflammation of the kidneys, congestion and slight induration of the spleen, a deposit of newly-formed connective tissue between the lobules of the liver, congestion and hemorrhagic infarction of the lungs. The smallest vessels have been closely examined without detecting any pathologic changes in the vessel walls.

CASE 2.—Baby R., born March 6, 1901. Weight at birth, 2 pounds and 14½ ounces.

The mother of this child was about 17 years of age, unmarried. She had suffered an attack of pneumonia some three weeks prior to birth of child, and was still ill with bronchitis when admitted to hospital. She had made repeated attempts to produce an abortion during pregnancy. Labor was normal.

The child's skin was pale at birth; eyes were clear. A peculiar, circumscribed, white spot with a well-marked red border about the size of a three-cent piece, was noted on the left arm. It appeared as if carbolic acid had been dropped on the arm, thus bleaching the skin; this area was covered with fine scales. Similar spots were observed, one on the foot and two on the head. The thermometer only registered 93 at birth, and the child appeared quite lifeless. It was at once placed in the incubator and stimulants applied.

On the following morning the child's temperature was 98. It was fed a dram of mothers' milk every half hour. A hot bath was given and the child rubbed with oil. Its weight was now 2 pounds 13 ounces. A large quantity of urine was voided and its condition seemed good.

On the third day of its life it nursed from the bottle; it had lost an ounce in weight. On the whole, the infant did not appear quite as well as on the previous day.

On the fourth day the lowest temperature was 96 F.; in the evening it had risen to 101. The child nursed from the mother during the night, but during the day was fed with a spoon. It was noted that the child seemed weak during the morning and had lost three ounces in weight. On this day an oozing was observed from the roof of the mouth. The white spots previously referred to had disappeared.

On the fifth day of its life there was hemorrhage over the lower portion of the spine. The odor of the stools was markedly offensive. There was a good deal of hemorrhage from the mouth and styptics were used to control the same, without avail. The maximum temperature on this day was 99.6. Child did not take its nouriahment well.

On the sixth day oozing of bright red blood was observed from the navel, which was the first bleeding from the cord noted in this child. The stools were very dark and contained blood. Gelatin was applied to the umbilicus and also to the mouth. It was fed mothers' milk with a medicine dropper, but did not take nourishment well. At noon the temperature dropped to 96 F. and at 7 p. m. of the same day it rose to 101.4. The umbilical oozing had become a severe hemorrhage and the stools were decidedly bloody. Hemorrhage also occurred from the nose, mouth and around the periphery of the umbilicus. A clot of blood was expelled from the bowel. Purpuric spots on the face were observed, which increased in size. A nitrate of silver solution was applied to the gums and a 2 per cent. solution of gelatin was given hypodermically; a compress of the same was placed over navel and subsequently a compress of sterilized vinegar was applied without effect.

On the eighth day of the baby's life it had lost an ounce in weight. Hemorrhagic spots were diffusely distributed over the skin and clotted blood was passed from the bowel. The child was very anemic, the extremities were cold and it seemed to be failing. A large clot of blood was passed from the nose. The temperature sank to 95.8 at one time, and did not go above normal on this date. One dram of gelatin solution was administered by mouth and fluid extract of ergot in 1 minim doses was given every two hours. The child was freely stimulated and the use of styptics was continued, but it gradually failed and died at 10 o'clock on the following morning.

Autopsy.—The autopsy was made by myself five hours after death. Skin extremely pale. The cord is dry around the periphery and the umbilicus gives evidence of recent hemorrhage. Large hemorrhagic area under the skin, on the posterior aspect of the left thigh and in the right thigh a similar hemorrhagic area, one and one-quarter inches long by one-quarter inch wide. This was the site of the subcutaneous gelatin injection. Over the sacrum a bluish-red hemorrhagic area the size of a dollar is seen; blood is also noted about the anal orifice. There is evidence of recent oozing from the nose. Lying subcutaneously in the loose skin of the neck, opposite the cricoid cartilage, is a clot of blood the size of a hickorynut. There are two hemorrhagic areas in the right lung. On the anterior surface of the lung, lying underneath the visceral pleura, is an irregular-shaped hemorrhagic area about the size of a three-cent piece; it resembles a small infarct. In both right and left lungs, numerous punctate and miliary hemorrhages occur. The lungs are not completely dilated; atelectactic areas are observed here and there. The thymus gland is normal in size and is the site of diffuse hemorrhage. There is no hemorrhage into the pericardium. The thyroid gland is normal in size and presents numerous punctate hemorrhages. Petechial spots are observed on the periosteum of the ribs. The long bones when cut vertically, show the evidence of syphilitic osteochondritis, fairly well marked. The stomach shows numerous minute hemorrhages into the mucosa; these vary from a pinpoint to a pea in size. The stomach was greatly dilated with air, which escaped when incision was made. There is considerable blood contained in the organ. The heart is negative. The intestines show numerous small hemorrhages into the mucosa. The liver is normal in size and color, but there are small hemorrhagic areas distributed over the surface of the organ. A small hemorrhage is observed in the tip of the appendix. The bladder is negative. The suprarenal capsules are the site of slight hemorrhages. The kidneys are pale, but otherwise negative. The spleen is somewhat enlarged and congested, and small hemorrhagic spots are numerous throughout the organ and on the capsule. The bones of the skull are negative, though hemorrhages are observed under the pericranium. The brain substance is pale and there are no large hemorrhagic areas noted in it, but some small petechiæ in the pia mater. There is slight diffuse injection of the pia mater.

Unfortunately, no histologic examination was made in this case. The bacteriologic examination gave us no results.

CASE 3.—The following case was seen in consultation with Dr. A. L. Freund of this city: A female child was born March 24, 1899, after a tedious, though otherwise uneventful labor. It seemed somewhat feeble after birth, though it cried normally and showed no gross lesions. When about thirty-six hours old, the child became intensely jaundiced, and soon thereafter severe hemorrhages occurred from the anus, mouth and vulva. The hemorrhages continued, the child became more and more exhausted and all attempts to control the hemorrhages by internal medication and by external applications, were futile. Death occurred on the fifth day of the child's life.

The etiology in this case is obscure. Dr. Freund suggests that the nurse was careless in the treatment of the cord, and fears that an infection may have resulted in this manner. In the family history lues is denied. The father had a slight pulmonary hemorrhage ten or twelve years before the birth of the child; he is, however, robust and appears to be in good health. The mother is a well-developed woman and appears to be in perfect health. In her childhood she is said to have had a severe bowel disease, which persisted for a long time.

CASE 4.—This case was seen in consultation with Dr. Edward Buel Hutchinson of this city. The child was delivered by Dr. Hutchinson, June 30, 1901. It weighed 8 pounds and 1 ounce. The position was l.o.p. The labor was prolonged and forceps were used because there was no advance of the head. Some difficulty was experienced in the labor and considerable maternal hemorrhage ensued. The membranes were incomplete. The fetal heart tones were 140 per minute and were strong. There was slight asphyxia at birth.

The father of this child is 42 years old, a hard drinker, but appears robust and claims to be in good health. He absolutely

denies syphilitic infection. The mother is 36 years of age, a primipara and in good health.

On the third day of the baby's life, the respirations were rapid, the temperature varied from 103 to 104, cyanosis was marked and the urine stained the napkins a pinkish hue. On the fourth day it nursed very little and did not seem as well.

July 4, the fifth day, the temperature continued high, purpuric spots were noted on the neck and chin and a few drops of blood exuded from the vagina. On the sixth day a purpuric eruption was seen distributed over the chest, trunk and extremities. It nursed poorly and bleeding was observed from the gums, vagina and rectum. On this day I was asked to see the child. Its respirations were rapid, it was intensely pale and exhausted, the heart's action was rapid and there was some cyanosis. The child did poorly from this time on; it lost steadily in weight, the bleeding continued from all the mucous membranes unabated, the hemorrhages into the skin increased in size and number. Convulsions occurred, followed by coma, and the child died on the eleventh day of its life.

Various local and constitutional remedies were employed in this case—subcutaneous injections of normal salt solution, suprarenal extract locally and internally, inhalations of oxygen. No autopsy was permitted.

CASE 5.—Baby B., born prematurely (7½ months), was brought to the hospital a few hours after birth and placed at once in an incubator. On its arrival its temperature was 102 and it weighed 4 pounds 5 ounces.

The mother of this child had been anemic for years. She had married five years before and this was her first child; at its birth she was about 24 years old. No specific history can be obtained from either father or mother.

The baby's maximum temperature on the second day of its life was 104.2. On the third day it was noticed that a small, greenish, offensive stool had been passed. The child was given small doses of calomel. The maximum temperature on this day was 103.4. The baby was bathed and was fed mother's milk with a teaspoon in dram doses every two hours. On the fourth day the stools continued very offensive. The child had lost nine ounces in weight since its birth. The temperature continued elevated on the fifth day; the child nursed from its mother.

On the sixth day, for the first time, hemorrhagic spots were observed on the face and on the body, varying in size from a millet seed to a pea.

The temperature was somewhat lower on the seventh day, and on the eighth day a hemorrhagic spot was observed over the lower portion of the spine. The bowel movements were offensive and temperature rose to 102. On the ninth day, it was stated that the loss in weight continued. It rested well during the night. The child was taken from its mother's breast and nursed by a wet-nurse.

On the tenth day a slight gain in weight was noticed, the child's condition seemed somewhat improved, and the hemorrhagic spots were less marked. I saw the child on this day, for the first time. Examination showed a greatly enlarged spleen, which was hard and reached almost to the anterior superior spine of the ilium. The liver was also enlarged.

On the thirteenth day of the child's life it was not nursing well, its temperature became subnormal during the night, though it slept well and cried little. It lost slightly in weight, the urine was highly colored, oozing was observed from the mouth, and the face assumed a cyanotic hue. Its general condition was not so favorable on this day.

On the fourteenth day the spots were much more marked and the child's skin and mucous membranes remained cyanosed. Purpuric spots were noted over the spine; there were several of these, which gradually coalesced to form a hemorrhagic area.

On the fifteenth day it had made a slight gain in weight; it passed a great quantity of urine and for a number of days the urine had been very scant. It was given citrate of potash every two hours. The child continued to do fairly well, the hemorrhagic spots gradually became paler, it took mothers' milk from the breast and left the hospital weighing 3 pounds 13¼ ounces. After reaching home it continued to improve, made a steady though slow gain in weight. It was placed on antispecific treatment, consisting of daily inunctions, which were continued for two or three months. When the child was about 4 months old, it was noted that a slight nystagmus was present in both eyes and that the head was gradually increasing in size. The child passed from under observation for six weeks; upon its return to the city, it was noted that a decided hydrocephalus had occurred. The spleen continued large.

The child is alive at the present day, the hydrocephalic condition shows a tendency to diminish.

CASE 6.—Baby H., born Sept. 12, 1901, female child. Labor normal. The maternal history is negative, though her first baby died from a hemorrhage from the navel. There is a slight suspicion of a luetic infection in the father, though this is not fully confirmed. The baby's weight at birth was 6 pounds and 8 ounces. The cord was tied in the usual manner at birth and it was soon noticed that a hemorrhage was occurring at this point. The cord was retied by the attending obstetrician. After he left the hospital, it was observed that the bleeding had not ceased and a third ligature was applied. The oozing still continued around the periphery of the cord and a firm compress dipped in a 2 per cent. gelatin solution was now applied to the navel. The temperature was not elevated on the day of the child's birth. On the following day a slight hemorrhage occurred from the nose, and the child vomited blood; its temperature fell to 96 F. Quarter-grain doses of chlorid of calcium three times daily were ordered, and 1 per cent. solution of gelatin was given three times a day in dram doses. The mother was given calcium chlorid.

On the third day of the baby's life the temperature was 96.4 and did not rise above normal all day. The crying was weak; the stools contained traces of blood. On this day a fresh hemorrhage started from the cord and a compress soaked in sterile gelatin was applied, after which the child was placed in an incubator.

On the fourth day it seemed to go into collapse; the skin was cyanotic, there was no more hemorrhage from the navel, the heart's action was very rapid and respiration was of a decidedly Cheyne-Stokes character. The child had muscular twitchings and convulsive seizures, there was dulness over the left lung posteriorly, with tubular breathing above and diminished breathing at the base. Fear was expressed that the baby would survive but a few hours. A slight quantity of blood was vomited.

On the fifth day the child was nursing, the hemorrhages had ceased and it appeared decidedly better. From this time on the baby improved; it slept well; the cord fell off on the ninth day without affecting the excellent condition of the child. Mercurial inunctions were employed. The baby left the hospital in good condition; it is now two months old and is progressing favorably.

CASE 7.—The following case was reported to me verbally by my friend Dr. Julius Hess, who had an opportunity to observe it fully while he was at the clinic of Escherich in Graz. The case was worked up by Dr. Kovalevsky, a Russian woman who was studying at the clinic.

The child was brought to the hospital on the third day of its life and placed in an incubator. It had been prematurely born and was poorly nourished. It was fed at the breast of a wet-nurse. Suppuration was noted at the insertion of the cord. About the end of the first week two small cutaneous hemorrhages were observed. These gradually increased in size and underwent discoloration. On the subsequent days of the child's life other ecchymoses appeared.

Examination.—At the time of the baby's death, the skin was of a deep yellow color, its continuity broken only by the stains of more recent hemorrhages. Blood examination showed a great increase of the white blood corpuscles; normoblasts and poikilocytes were present. Several specimens of blood were stained. In one, a whole colony of short, thick bacilli were observed, and in a second specimen a few scattering organisms of the same type were found. Cultures were made on blood serum, agar, gelatin and bouillon from the blood, and showed a pure culture of the same type of organism.

Autopsy.—The dura and meningeal vessels were the site of slight abscesses, most marked on the convexity. Some serosanguineous fluid was found in the pleural and cardiac cavi-

ties. The liver and kidneys were also the site of miliary abscesses and fatty changes. The spleen was enlarged and congested and the navel was the site of suppurative processes.

Bacteriology.—Cultures from the spleen, kidneys, liver and dura mater showed pure growths of the organism referred to above. Gelatin was not liquefied by this micro-organism. The indol test was negative. A mouse injected with one cubic centimeter of a twelve-hour bouillon culture died the next day. The organisms destained by Gram, and were agglutinated by serum from the child before its death. The organism, in accordance with the biologic and morphologic examinations, appeared to be a variety of the colon bacillus, notwithstanding the fact that the indol test was negative. The probable explanation of this rests on the fact that the colon bacillus produced abscesses, which we know it is capable of doing, and the absorption from the pus foci caused the hemorrhages secondarily.

CASE 8.—The following is from Dr. Lobdell's obstetric service at Cook County Hospital, Dec. 26, 1899:

The mother was a primipara, 19 years of age. She was unmarried and showed undoubted evidence of syphilitic infection. She admitted having contracted syphilis during pregnancy. The labor was protracted and difficult, lasting forty hours. The child weighed 3½ pounds at birth and it lived one hour.

Autopsy.—No caput succedaneum present. There is a quantity of clear red fluid in the peritoneal cavity, with masses of fibrous clots floating in it, and many small, subperitoneal clots are observed. The pleural cavities contain bloody fluid. Petechiæ are noticed under parietal pleura. There is a small amount of straw-colored fluid in the pericardial cavity. Petechiæ are seen in parietal layer of pericardium. Numerous hemorrhagic spots are observed under visceral pleura; on section, it is noted that the hemorrhage extends into lung tissue. Blood and frothy fluid exude from cut surface of the lungs. Foramen ovale and ductus arteriosus are patent. The spleen is markedly enlarged; three accessory spleens are present. A whitish patch is noted on capsule, which does not extend into structure of spleen. The kidneys are negative. There is an effusion of blood underneath the scalp. Petechiæ underneath pia mater. There is a large blood clot into falx cerebri and hemispheres of each side. A blood clot of considerable size is observed in the posterior fossa of the right side.

CASE 9.—The following case was observed in my service in the Children's Ward of the Michael Reese Hospital, Chicago:

The child was admitted to the hospital, April 13, 1901. It was somewhat older than those previously described, but it illustrates the septic nature of a proportion of these cases in such a striking manner that it is included in this report. The child was four and a half weeks old. The family history is negative. The mother reported that during the four weeks prior to its admission to the hospital it had been suffering from gastrointestinal symptoms; it vomited occasionally, had some diarrhea and cough. Three days before admission, the child was taken ill and went into a severe convulsion. It began to bleed from the nose and mouth. This condition persisted. On the day preceding its admission, the bowel movements contained dark, clotted and some fresh blood.

Examination.—A discharge of bright red blood from the anterior nares was observed. The pharynx was negative. The lips were pale, the mucous membranes were everywhere anemic. There was a discharge of blood from the right auditory meatus. An examination of the mouth showed small hemorrhages into the mucous membranes of the hard and soft palate. The heart and lungs were negative. The respirations were increased. The spleen and liver examinations were negative. A discharge of blood from the anus was observed; no purpuric areas were seen and there was no glandular enlargement. The following observations are recorded on the history sheet the day after the child was admitted to the hospital: "Hemorrhage from the right ear and the anterior nares persists. The feces are stained bright red, though at times they contain dark, clotted blood. At other times the entire stool is of a dark red color. The intense anemia continues. The respirations are 84 per minute. The blood examination shows 41 per cent. hemoglobin, 19,200 white corpuscles, 1,975,000 red. Of the white corpuscles, 60 per cent. are large and small mononuclear leucocytes and 40 per cent. are of the polynuclear variety. The maximum temperature on this day was 102.6; pulse was 128."

On the third day after admission a noteworthy and, in many respects, remarkable change occurred. The temperature fell from 104 degrees at 9 o'clock a. m., to 99.4 at 12 p. m. The extensive hemorrhage ceased and the child seemed much improved. A discharge of pus from the right auditory meatus was observed at this time. The child was examined by Dr. George Morganthau, the aurist to the hospital, who reported a flow of blood from the right middle ear, a perforated eardrum and a discharge of fetid pus. Subsequently, a purulent discharge from the left ear occurred.

From this time on the child continued to improve, the mucous membranes assumed a more normal color and the hemorrhagic condition disappeared. Treatment of the ears was continued, under Dr. Morganthau's supervision, the child remaining in the hospital for this purpose, and was discharged May 5, having fully recovered.

CASE 10.—Louis M., aged 8 weeks, was admitted to my service at the Michael Reese Hospital, Feb. 7, 1901. Like the case previously described, it illustrates a class which is undoubtedly of septic origin, though it is somewhat older than the children that are usually described as suffering from spontaneous hemorrhage. The family history is negative. This is the only child.

The Illness.—Four weeks prior to admission, the child's mother noticed that it was restless and cried a great deal. She also observed an enlargement of the scrotum, which, according to her description, seems to have been caused by hydrocele. She consulted a physician who plunged a trocar into the sac, resulting in the withdrawal of several drams of colorless fluid. Since then, the scrotum had been enlarged, tender and swollen. The baby had been fed at the breast and had thrived.

Examination.—The temperature of the child on admission was 98.2; pulse, 152; respirations, 36. Examination showed spots on the right side of the face the size of barley grains. There was a continuous oozing of blood from the nares and from the mouth. The glands were not enlarged, the liver and spleen were palpable, the left testicle was swollen. In the right testicle the epididymis was large, could be easily palpated, but was not painful. The patient presented a subicteric and an anemic appearance. Auscultation of the lungs gave crackling rales, and roughened breathing was heard over both sides.

February 20, ecchymotic spots were observed on the hard palate. On the gums of the upper jaw, fissured areas were observed. These points were bleeding continuously. The tongue was also covered with small ecchymotic spots. The stools contained blood and the child vomited blood. Bleeding continued without interruption. The temperature, which on admission had been scarcely above normal, soon became high and irregular and the child gradually failed. The pulse and respirations were rapid and the child died February 21, having been in the hospital two weeks.

CASE 11.—A female infant born at full term of healthy parents, perfectly normal labor, was seen a few hours after birth with hemorrhages from the mouth and nose, numerous hemorrhagic areas under the skin and bleeding from the bowel. These persisted for three days, until the death of the child.

Autopsy.—The autopsy was made five hours after death. Skin, a light lemon yellow, mucous membranes pale. A slight discharge from vulva was noted, which began just after death. Bluish-black discoloration on back. Cord dry; stump appeared moist and was discolored by blood. Postmortem rigidity well marked. Muscular substance extremely pale. Thymus moderate size.

Left Lung.—Pale; posteriorly, subpleural, punctate hemorrhages, and some at the apex. The cut surface showed slight atelectasis, edema and some hemorrhagic areas. Right Lung.—Upper lobe pale; subpleural hemorrhages, lower lobe congested. Heart.—Pericardial sac empty; anemia; valves normal; no clots; very little blood; well-marked hemorrhages under visceral pericardium and over left ventricle. Liver.—Smooth, normal in color and size, glossy, shiny in appearance. Spleen.—Normal size, dark color, cut surface shows spleen soft, dark and brittle. Adrenals.—No hemorrhage.

Right Kidney.—Capsule strips with difficulty; slight hemorrhagic marks under capsule; cortical substance well marked. Pelvis slightly infected; no hemorrhages. Left Kidney.—Hemorrhagic spots in pelvis of kidney; cortex contains fine striæ, vascular markings; pelvis otherwise negative. Stomach.—Mucosa covered with dark, blood-stained mucus. Intestines.—Small intestines filled with blood, which is clearly adherent to mucosa. Mucosa blood-stained. Large intestine filled with blood.

Microscopic Findings.—(April 10, 1902.)—Kidney: Normal, except for small hemorrhage; no bacteria. Spleen: Pulp infiltrated with blood; malpighian corpuscles normal and free from bacteria. Small number of bacteria in pulp. Lung: Marked hemorrhagic area; small patches atelectatic; bacteria in blood vessels—none in tissue.

Bacteriologic Findings.—Cultures taken from heart, spleen, lung and liver at autopsy show pure cultures of *Bacillus coli communis*. No growth from umbilical vein. The colonies on both agar and gelatin corresponded to the typical colon bacillus. Indol reaction was very marked. Gas produced in glucose media; litmus milk acidified. The bacillus in all respects responded to the typical *Bacillus coli communis*.

These microscopic and bacteriologic examinations were made by Dr. Jean M. Cooke.

CASE 12.—Baby F. Age, 5½ months. Was delivered after an apparently normal labor, nursed shortly after birth, and was well until one month of age. The bowels were always constipated. When the child was 4½ months old, the mother noticed that it became restless and shortly after this it was observed that the child held its head a little to the left side. A week later swelling developed in the right side of the neck, which was undoubtedly an enlarged gland; this disappeared a short time before the final illness. Nine days before admission to the hospital (March 7, 1902), the child bled from the nose and began to vomit blood, and epistaxis occurred. This continued. Subcutaneous hemorrhages occurred at the same time. There is no history of hemorrhagic disease in the family and the heredity is otherwise negative.

The baby was sent to the hospital in order that the gelatin treatment and subcutaneous saline infusions might be tried. It had a temperature of 101.6 F. on admission, which rapidly rose to 103. Bleeding from the nose, mouth and throat continued, as did the vomiting of blood and the passage of blood by the bowels.

Shortly after admission, the child was given an infusion under the skin between the shoulders, of one and a quarter ounces of well sterilized, 2 per cent. gelatin solution. It was also given stimulants, saline infusion, one-quarter grain doses of suprarenal extract and a few drops of the adrenalin solution in the nose and mouth, in order to control the hemorrhage locally. Small doses of gelatin were given by the mouth. On the following day another subcutaneous infusion of gelatin was made. The child died on this day.

CASE 13.—The notes of this case were kindly furnished me by Dr. J. C. Hoag of Chicago, in whose service at St. Luke's Hospital the patient was treated. A female child, born at the hospital at full term, weighing 7 pounds and 10 ounces. On the third day the weight was 6 pounds and 14 ounces. On the fifth day it was observed that the temperature registered 101.4, the child did not nurse well, there were eight bowel movements with much blood intermixed. On this day the child was given 100 cubic centimeters of a 2 per cent. solution of gelatin subcutaneously. Some of the same solution was injected into the rectum. The child was extremely pale and feeble. On the following day bloody bowel movements continued. The subcutaneous injection of gelatin was repeated. The temperature ranged between 101 and 102. The seventh day a dram of gelatin solution was given by mouth thrice daily. No blood appeared in the stools and none appeared subsequently. Temperature varied between 103 and 105. On the eighth and ninth days the child showed great improvement, with a temperature varying between 99.5 and 100.5. On the tenth day the temperature again rose to 102 and it was observed that induration was present at the points where the two hypodermic injections had been made. On the twelfth day these areas fluctuated and were incised and drained.

From this time on the patient improved, no further bleeding occurred, the patient left the hospital weak and pallid, but improving. The child weighed 7 pounds and 1 ounce on the day it was discharged.

THEORIES AS TO ETIOLOGY.

Various hypotheses have been suggested as to the causal factors in spontaneous hemorrhage. Landau,[3] whose writings on melena are extensively quoted in the literature, is of the opinion that ulcers are produced in the stomach as the result of a somewhat indirect embolic process. The disease, he says, is frequently observed in weakly children who show signs of cyanosis at birth; in consequence of the delayed respiration and the weak heart action clots are formed in the umbilical vein, or in the ductus arteriosus. From one of these clots, Landau maintains that an embolus is broken off and passes through the right heart, the ductus arteriosus into the aorta, and, finally, lodges in an arterial branch which goes to the stomach, thus causing an area of infarction which very soon breaks down and ulcerates. Such a process has been observed by no other clinician than Landau, and the theory is no longer tenable.

Henoch,[3] in commenting on the theory of Landau, remarks that while ulcerations of the gastric mucosa are quite common in newborn children, melena occurs very infrequently; furthermore, that in those cases where multiple ulcers were found on autopsy, no hematemesis or bloody stools were observed. Exceptionally, he says, an ulceration may explain melena. In the majority of cases the condition is a constitutional one and the explanation of embolism is not satisfactory.

More recently, in 1892, Von Preuschen[4] and Pomorski[5] concludes that injuries to the head which result in the production of cerebral hemorrhages, especially in those cases in which the cerebral peduncles and the fourth ventricle are involved, act as causal factors in the production of spontaneous hemorrhages. These authors maintain that cerebral hemorrhages occurring in the locations described, interfere with the normal mechanism of the vasomotor center. These experimenters produced hemorrhages in rabbits by puncturing the cerebral peduncles and the third and fourth ventricles.

This explanation can not be considered as a satisfactory one in the majority of cases. Numerous autopsies have shown that multiple hemorrhages into the viscera, under the skin and from mucous membranes have occurred without any cerebral hemorrhage; on the other hand, numerous hemorrhages occur into the brain without the production of hemorrhage in other locations.

It has for a long time been maintained that congenital syphilis is responsible for a certain proportion of the cases of spontaneous hemorrhages. Behrend[6] believed that such children are usually prematurely born and die shortly after birth, or, at the most, live only a few weeks. The hemorrhages which he observed were multiple in character. He described a case where the child recovered from hemorrhage, but died later of hydrocephalus. Fischel,[7] who reviewed the work of Behrend, and examined very carefully a striking case, paying particular attention to the microscopic examination of the small vessels, could not agree with him as to the syphilitic origin of the condition. Mracek,[8] who examined nineteen cases of hemorrhagic syphilis, found changes in the blood vessels in 14 per cent. The changes consisted of endarteritis of the small and

medium-sized blood vessels in the submucous tissue of the alimentary tract, and this he considered evidence of the presence of syphilis. The most striking changes which Mracek found was in the capillaries.

In the cases which have been reported in this paper, Case 8 shows a history of syphilis in the mother. In Case 2 the osteochondritis and the presence of a pneumonia, together with the fact that the child was prematurely born and poorly developed, speaks in favor of a syphilitic infection. In Case 5 a syphilitic history is strenuously denied by both father and mother. One is, however, tempted to make a highly presumptive diagnosis of lues in this case. These cardinal facts are significant. The child was prematurely born, the spleen was greatly enlarged, there was recovery after antisyphilitic treatment, and a consequent hydrocephalus developed.

INFECTION AS AN ETIOLOGIC FACTOR.

In recent times the tendency has been to study these cases bacteriologically. Numerous observers have described micro-organisms which occurred in the disease. Klebs[9] described a micrococcus which he found in large quantities in nine newborn children, who had died of hemorrhage. These he injected into young rabbits and succeeded in inducing hemorrhage in them. His results were confirmed by Weigert,[10] Eppinger[11] and Brehn.[12] Babes[13] described a case of sepsis arising from the umbilicus. He isolated a micro-organism from the blood which resembled the pneumococcus. Kilham[15] and Marcelis[16] found in two cases a diplococcus which resembled the pneumococcus. Animal inoculation with this organism did not produce hemorrhage. Gaertner[17] isolated a short bacillus resembling in morphologic and cultural characters the typhoid and colon bacilli. J. P. Mapes,[18] quoted by Holt,[19] found in pure culture in the arteries, in the heart's blood and in the spleen, a bacillus which was apparently identical with that described by Gaertner. Baginski[20] reports a case of sepsis in a sixteen-day-old non-syphilitic child with multiple hemorrhages, in which careful bacteriologic examination showed the streptococcus pyogenes in pure culture, taken from various portions of the body. Neumann[21] describes two cases: one, that of a fourteen-day-old presumably syphilitic child. The bacillus pyocyaneus was demonstrated as present in the body juices, and it was found also microscopically in the liver, spleen and blood. In the second case, that of a six-week-old syphilitic baby with diffuse spontaneous hemorrhages, staphylococci and streptococci were present in the heart, blood, spleen and kidneys. Dungern[22] describes a short, plump bacillus, one or two microns in length and one-half as broad, which stained readily with gentian violet and showed the presence of a light capsule. These capsules remained after the micro-organism was grown on culture material, and proved pathogenic for white mice. Autopsy showed ecchymotic spots in lungs and on serous membranes, death having occurred in from forty to fifty hours. The bacillus resembles in morphologic and cultural characteristics the bacillus of Friedländer. It is also recorded that while this child was in the ward three infants died of pneumonia.

In my series of cases bacteriologic findings were not obtained in every case. The two cases in older children presented all the evidences of septic infection, and are of great interest; they verify the opinions of previous writers on this subject, that a certain proportion of spontaneous hemorrhages are due to sepsis. The case which was verbally reported to me from the Escherich clinic, as well as Case 11, are undoubted examples of colon bacillus infection. A study of a number of these cases impresses one at once with the fact that this disease may be caused by a variety of conditions. It becomes apparent, as we proceed in our analysis of the cases, that no one causal factor is responsible for hemorrhagic diathesis in infants as some writers would seem to infer. It is not probable, in my opinion, that any specific micro-organism will ever be discovered as the sole cause of hemorrhagic disease in newborn children. We should rather regard the hemorrhage as a symptom of any one of a number of infections. The explanation of the fact that infants show a readiness to bleed, should be sought in certain peculiarities of the blood-vessel walls, in abnormal states of the blood, or both, and we might infer that the porosity of the vessel walls is increased in these conditions or that the tendency of the blood to clot is diminished. Examinations of the blood have not shown any changes in its chemistry or morphology. Future research in the etiology of this disease should be directed along the line of histologic examination of the minute blood vessels, contemplating also conditions governing the clotting of the blood.

SUMMARY OF CLINICAL MANIFESTATIONS.

The disease is not of frequent occurrence. In the large foreign clinics, as well as in American obstetric hospitals, the frequency varies from one case in 500 to one in 700 births. The family history may be taken into account. In Case 8 there was a positive history of syphilis. In Case 2 the mother admitted having made frequent attempts at abortion and had suffered from a pneumonia late in the pregnancy. In Case 4 the father was a hard drinker, and in Case 3 the father had suffered from a pulmonary hemorrhage several years before the birth of the child. In Case 5 the mother had suffered from a life-long anemia, and in Case 6 the mother had previously given birth to a child that died of hemorrhage. The admission of a luetic infection, of a pneumonia shortly before birth, of frequent attempts to bring about abortion, should all be regarded as significant, though their relation to the condition under consideration would be hard to establish.

In the newborn children two cases showed signs of hemorrhage at birth, one on the second day, one on the fifth day, two on the fourth day and one on the sixth day; the two septic cases included in this paper showed no signs of bleeding until after the fourth week. The sites of hemorrhage were: Umbilicus, 3 times; under skin, 6; from nose, 4; mouth, 7; stomach, 2; vagina, 2; bowel, 5; ear, 1.

In the larger number of the cases of bleeding from the umbilicus, the flow was of a slow oozing character. In one case a profuse flow occurred, which tended to recur at intervals. The hemorrhages under the skin were in some cases small purpuric spots, but in one case a single spot covered the back. The hemorrhages from the nose were of a slight oozing character; those from the mouth were, for the most part, slight. In several cases ecchymotic spots were observed on the soft palate, and in one case there was a decided fissure on the gums of the upper jaw, from which a continuous hemorrhage occurred. It is interesting to note that hemorrhage from the stomach occurred twice, while hemorrhage from the bowel occurred five times. The blood from the stomach was always of a dark red color. From the bowel the blood was usually dark, it was sometimes clotted and in one case bright red blood was discharged. Hemorrhage

from the female genitalia is of frequent occurrence in cases where there is no hemorrhagic diathesis present; the hemorrhage from the vagina in both our cases was profuse. Hemorrhages from the male genitalia were not observed in any of the cases, nor was there a case of hemorrhage from the bladder. The hemorrhage from the ear, observed in the septic case, was associated with hemorrhage from the mouth and nose, and was the manifestation of a septic condition originating in the middle ear.

Temperature in one of our cases continued subnormal throughout the entire illness; this child recovered. In another it continued elevated, rising as high as 104, and this child recovered. The temperature in another varied between 93 at birth and 101.4; on the fourth day it ranged between 96 and 101.4, constituting a very irregular temperature. With one exception, however, all of the children showed exacerbations of fever.

Cyanosis occurred in two of our cases as a late manifestation. All of the children showed a loss of weight. A few of the cases were icteric, and in one the icterus was intense. The icterus in the mild cases was undoubtedly of physiologic type. In one of our septic cases the disease was ushered in by a convulsion. In another, convulsions occurred shortly before death, and in one child that recovered convulsions and muscular twitchings were prominent symptoms.

It is worthy of note that the evacuations from the bowel were very offensive in odor before the hemorrhage was observed; this observation was made in the majority of our cases.

Is the quantity of blood lost sufficient to cause death? From my own experience, I should say that whereas in some cases the loss of blood continued for several days, in the majority of cases it has been inconsiderable and not sufficient in quantity to cause death. We must rather ascribe the cause of death to a general toxemia, whether it be acute, as a sepsis, or chronic, as a luetic infection. The loss of blood in these cases should no more be considered the cause of the lethal result than would the purpuric spots in a morbus maculosus, in a case of cerebrospinal meningitis with purpura, or the expectoration of rusty sputum in the pneumonia of an adult. No case of hemophilia occurred in our series; indeed, all observers are agreed that this disease is extremely rare during the first few days of life—the hemorrhagic disposition does not show itself till the end of the first year of life. The hemophiliac tendency is frequently hereditary, it occurs after slight or severe traumata. Children who suffer spontaneous hemorrhages, such as form the subject of this paper, if they recover, do not show a disposition to recurrent bleeding on recovery.

TREATMENT.

If we have learned anything from our group of cases concerning the treatment of this disease, we may formulate it as follows:

1. Internal remedies, as ergot, tincture of chlorid of iron and extract of suprarenal gland have absolutely no influence on the progress of the disease.

2. The local treatment of the disease by styptics of whatever kind, packing with gauze (as when the hemorrhage occurs from the vagina), and even the local application of suprarenal gland extract, are without permanent influence on the intensity or duration of the hemorrhage.

3. The ineffectual use of gelatin in Case 12 led us to do some experimental work on normal children with gelatin. While it is true that two of our cases recovered (Nos. 6 and 13) after the use of gelatin, this may be due to a mere coincidence, or to the undoubted power which gelatin certainly possesses to coagulate the blood of bleeding surfaces. The method of using the gelatin is as follows:

A pad of sterile gauze, or a compress, may be soaked in a 10 per cent. gelatin in normal salt solution and applied to the bleeding area. A small amount of bichlorid of mercury may be added to this solution. Its preparation must include careful sterilization. A 2 per cent. gelatin in normal salt solution may be given subcutaneously. This should be sterilized repeatedly—that is, for three successive days. The peptone which is ordinarily added to gelatin for culture material should be omitted, as it counteracts the coagulating effect of the gelatin. From 25 to 50 c.c. of this solution may be given subcutaneously to a newborn infant, and may be repeated once daily.

EXPERIMENTAL GELATIN INJECTIONS IN CHILDREN.

The normal children on whom the treatment was tried were as follows:

NORMAL CASE 1.—A little girl of 4 years, feeble-minded, who was taken into the hospital on account of malnutrition. On the 28th day of her stay in the hospital, she was given a subcutaneous infusion of two ounces of 2 per cent. gelatin solution. Very shortly thereafter the temperature rose to 100.2, followed by another rise to 101; the pulse increased gradually from 92 to 140, and the respirations from 24 to 36. The child was extremely restless, greatly prostrated and the extremities were cold. This condition of affairs continued for 24 hours, when the temperature gradually fell to normal and the pulse and respirations likewise.

NORMAL CASE 2.—W. B. A boy, 9 years old, who was receiving treatment at the hospital for equinovarus, was given three ounces of gelatin subcutaneously, at 9 o'clock in the morning. The temperature very soon rose to 101, pulse to 120 and the respirations to 30 per minute. The child was extremely restless and showed symptoms of a sudden toxemia.

NORMAL CASE 3.—Baby B., aged 22 months. Two ounces of gelatin were injected subcutaneously, which caused alarming symptoms of prostration and collapse, with an elevation of temperature and an acceleration of pulse and respirations.

EXPERIMENTS ON RABBITS.

In this experimental work on children the gelatin used was of the best quality, it was sterilized in the most careful manner, and the best proof that it contained no micro-organisms was that in no case did any abscesses result. It was not deemed wise, however, owing to the grave symptoms of toxemia which resulted, to carry on the work any longer with children, and, therefore, a few rabbits were injected.

Experiment 1.—A rabbit weighing five pounds was given an injection of 60 c.c. of gelatin subcutaneously, March 23, 1902. A few drops of blood taken before the injection showed that the clotting time was 48 seconds. Several drops of blood taken on the day following the injection showed that it clotted in 12 seconds; also, that it clotted quickly over the bleeding point and the hemorrhage was not very active. It was noted that shortly after injection the temperature fell very markedly, though it was soon found that the temperature of the rabbits varied with such wide limits that no reliance could be placed upon it. The 60 c.c. of gelatin did not cause the rabbit any great discomfort, notwithstanding that the same dose was given every other day for a week.

Experiment 2.—A second rabbit was given 28 c.c. March 22. On March 23, it was given 30 c.c. of a 5 per cent. solution of gelatin. This last injection caused the rabbit to lie still, apparently sick. On March 25, 60 c.c. of a 5 per cent. solution were given. He became very quiet again, the blood clotted in from 12 to 15 seconds. March 26 this dose was repeated.

After this injection the rabbit did not eat, but lay in a crouching position, breathing rapidly. On puncturing the ear the wound bled slowly and the blood coagulated in 7 seconds. April 2 the same rabbit was given 250 c.c. of a 5 per cent. solution of gelatin. On the following day he refused food, the respirations were rapid and he was very restless. On the 11th the rabbit was given 500 c.c. of a 5 per cent. gelatin solution. The injection was made about 5 p. m., and the rabbit died during the night. The autopsy was made 18 hours after death. The rabbit, during the time of experimentation, had lost greatly in weight, but no demonstrable lesions were apparent.

Experiment 3.—The rabbit used in this experiment was injected with 500 c.c. of a 5 per cent. gelatin solution. After the injection, the rabbit remained quiet and died three hours afterward.

CONCLUSIONS.

The following conclusions are undoubtedly justified:

1. Subcutaneous injections of sterilized gelatin solution are capable of producing toxic symptoms in children.

2. Large doses of a 5 per cent. solution of gelatin caused the death of rabbits.

The explanation of the toxemia produced by the gelatin is not very far to seek, when one recalls that the gelatin is manufactured from the bones of animals. The decomposition which takes place in these bones gives rise to cadaveric poisons. The resulting gelatin is a complex chemical substance, the exact nature of which is unknown to experts. While it is undoubtedly allied to proteid substances, nevertheless it is not distinctly proteid. Its nutritive value and the changes which it undergoes during digestion have not been determined chemically. The nature of the toxic substances that produced the elevation of temperature, the general condition of prostration and collapse in our patients, we should regard as ptomains. That these ptomains are contained in the gelatin may be inferred from the method of manufacture which has already been alluded to. It is a well-known fact that ptomains may be contained in solutions which are subjected to high degrees of heat, the latter not altering their chemical nature nor their toxic properties. The gelatin of commerce is usually acid in reaction, and this acidity is said to be due to bleaching agents employed, either sulphurous acid or chlorin. The acidity of the gelatin seemed to exert no influence, for in the gelatin neutralized by the addition of alkali, reactions occurred in the same manner.

From these considerations the matter may be briefly stated:

1. Sterilized gelatin injected subcutaneously contains toxic products.

2. These products are probably ptomains.

3. No further proof is needed that gelatin causes more rapid coagulation of the blood when it is exposed to the air.

4. It would be difficult to state what a safe dose of gelatin should be, given subcutaneously to a newborn infant.

5. The local use of gelatin and the use of gelatin by the mouth are warmly recommended and no objection can be urged against their use.

It is almost needless to say that in cases where syphilis is suspected a vigorous antisyphilitic treatment should be instituted in accordance with the methods usually employed for infants.

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DISCUSSION.

DR. ROSA ENGELMANN, Chicago—I was glad that Dr. Abt emphasized sepsis as a most probable cause of these conditions. It might be well, if the opportunity arose, to make inoculation experiments to get a better classification and etiologic knowledge on this subject. However, back of the sepsis there is probably a condition which makes these children liable to sepsis. One of these is, of course, syphilis. In the larger number of the cases reported in the paper the hemorrhage occurred immediately after birth. It has not been my fortune to see these early cases, but only those in children of from six to nine months of age, and in which syphilis evidently was a factor.

DR. E. H. SMALL, Pittsburg—At the meeting in Atlantic City I reported a case of this disease.[1] This baby, the first one, was born of apparently healthy parents after a difficult forceps operation. When it was 31 hours old I was summoned by telephone and informed that she had passed too much meconium and had thrown up some material that looked like meconium. The baby was seemingly all right on my arrival in about twenty

1. THE JOURNAL A. M. A., Oct. 27, 1900, p. 1084.

minutes. I went home and in a couple of hours there was another hemorrhage, both from the bowel and mouth. There were several more from the rectum in the next twenty-four hours of almost pure blood, unclotted, but no more from the mouth. The child became exsanguinated, her appearance being that of the last stage of cholera infantum. At one time she had a temperature of 104 and then went into a collapse. Notwithstanding this great loss of blood she eventually recovered. I saw, later, a similar case with hemorrhage both from the mouth and rectum. This patient died. Both parents were healthy, with several healthy children.

Shortly after the publication of my case in THE JOURNAL I got a letter from an old practitioner in Michigan, stating he had never seen such a case until about one year before. Since then he had had four cases of hemorrhage occurring in the first few days of life, the hemorrhage being from both the bowel and mouth. All these babies died, all were in the open country and the parents in each case were apparently healthy. I thus have to report six cases with but one recovery. In all of these, so far as I can learn, the parents were healthy.

DR. RUDOLPH W. HOLMES, Chicago—I used the gelatin treatment once locally on a boy eleven days old who bled persistently for twelve hours following a circumcision; there was almost immediate and lasting hemostasis. Twice I used the gelatin-salt solution subcutaneously for postpartum hemorrhage without untoward reaction. Lancereaux, one of the first to suggest systemic administration of gelatin solutions in hemorrhage, strongly condemned the intravenous injection on account of the danger of emboli. I would like to ask if it were not possible that a small subcutaneous vessel was torn during the injection, with the result that some of the solution was forced directly into the circulation, producing minute emboli, and the untoward symptoms. A short time ago I had a pregnant patient who gave a history of repeated postpartum hemorrhages in all her previous labors with grave symptoms. For about two weeks previous to her expected date of labor I had her eat twice daily generously of gelatin foods (jellies, puddings, etc.). The combination of these foods with calcium chlorid was of considerable benefit, at least the hemorrhage was nothing like what her previous attendant described. Later I found Dr. H. A. Hare recommends gelatin solutions and foods by mouth in hemorrhagic patients, as cooking does not deteriorate its coagulating properties. Would it not be in line to devise an appropriate infant food with gelatin for the cases Dr. Abt describes? Does Dr. Abt consider the so-called pseudo-menstruation of the new-born girl in any way connected with the condition under discussion? This pseudo-menstruation is not at all infrequent, occurring fully in 5 or 10 per cent. of newly born girls.

DR. A. JACOBI, New York—I saw a good many more hemorrhages in the newly-born thirty or forty years ago than more recently, and for one very simple reason, i. e., that at that time I saw a great deal more of puerperal sepsis than at present. Then it was a common experience to make an autopsy on the newly-born baby and find hemorrhages both large and small over the pleura, pericardium and the mucous membranes. At that time I took it almost for granted that the tendency to hemorrhages in the newly-born was very great. Since, however, puerperal sepsis has become comparatively rare I have seen very many less cases of this kind. There is no doubt in my mind that puerperal sepsis has a great deal to do with the hemorrhages of the newly-born. There is, however, another reason for hemorrhage in the newly-born: we should not forget that hemorrhage means a defect, not in the blood, but in the construction of the wall of the blood vessels. In many anemic women we meet with menorrhagia, and others with amenorrhea, all dependent on the structure of the blood vessels. The same reasoning is applicable to the fetus and the newly-born. Tissues are largely still in the embryonal condition, the tissues more fragile and the blood vessels burst very readily. When such a rupture has taken place we must take into consideration the state of the blood also. Hemorrhages in the newly-born are apt to be very extensive for the reason that although the blood of the newly-born contains more hemoglobin than in later life, its specific gravity is much less than in the adult and there is less fibrin. That is why when the hemorrhage once begins it is hard to stop it. Single hemorrhages into the sterno-cleido-mastoid muscle during birth may be copious. We frequently find meningeal hemorrhages extending all over, even down into the spinal canal. Another proof of the difficult coagulability of the blood of the newly-born is found in the fact that it remains fluid for a long time in cephalohematomata. Meningeal hemorrhages are frequent, being the cause of many deaths in the first week of life. I have seen a few hemorrhages about the medulla. I recall one case in which the baby moved a little immediately after birth, but within a few hours there was total paralysis of the four extremities. Diagnosis was made of gradual hemorrhage about the medulla, and a bad prognosis was given. Ice was applied to the neck and iodids were given internally, and the baby recovered. A few others of the same kind died and could be examined after death. Many of the hemorrhages in the newly-born depend on septic infections.

Some cases are certainly the result of antenatal sepsis. Oliver Wendell Holmes was the first to show that puerperal fever is contagious. Many believe that Semmelweiss, about 1867, was the first to prove the contagiousness of this fever, but I wish to insist that it was our own Oliver Wendell Holmes who, in 1843, wrote a very extensive paper on the contagiousness of puerperal fever, and proved absolutely that it was contagious and that it was carried from one patient to another by the attendants. Most of the cases of puerperal sepsis in babies are contracted after birth, but there are cases of antenatal origin in which the infection is carried from the diseased mother through the placenta, or through putrid amniotic liquor. In the newly-born the invasion may take place through big or small lesions of the integuments; that is, both the skin and the mucous membranes of the mouth or the digestive or respiratory organs; now and then, also, through the wounds of circumcision, or mastitis, or a maltreated cephalhematoma.

DR. J. C. COOK, Chicago—A child weighing ten pounds was born at full term and died of hemorrhage from the bowel only. The child born previous to this had died of sepsis at the age of three days. At this time the family were living in a house badly contaminated with sewer gas. There was no history of syphilis, and a healthy child had been born since in another house and no signs of hemorrhage or sepsis.

DR. FRANK X. WALLS, Chicago—The position taken by Dr Abt I think is excellent, i. e., calling these cases spontaneous hemorrhages of the new-born rather than describing them as examples of the hemorrhagic disease. These hemorrhages should be looked on as the result of an infection, or perhaps of an intoxication. In addition to the causes enumerated by the Doctor, I may add that malarial intoxication may possibly be a factor. I have seen one such case. In another case the baby had disease of the liver with obstructive jaundice, and the jaundice was the causal factor of the hemorrhage in this instance. In a case of spontaneous hemorrhage, in which the child vomited considerable blood, a microscopic examination of this vomitus showed that the blood was arranged in masses resembling exactly the blood casts seen in cases of hemorrhagic nephritis; in fact, some who saw the specimen thought it was one of urine from a nephritic. This would indicate that the hemorrhage comes not from emboli or from a single vessel, but from a diffuse oozing through the gastric tubules, the blood coagulating in the tubules and retaining the form of the latter. As an additional confirmation of this fact I may say that some of the casts were bifurcated. These cases very quickly disappeared, probably owing to the action of the digestive ferments.

DR. ABT—In reply to Dr. Holmes, I would say that I do not think I punctured the blood vessel, for the skin was loose and was picked up carefully, and I used a coarse needle, which could not have entered the lumen of a superficial vessel in the region where I was injecting. With regard to pseudo-menstruation, I suppose the doctor applies this term to the flow of blood from the vagina of the newly-born. This term seems to me to be a misnomer. We can not speak of menstruation in an infant whose generative organs are not yet functional. Hence, if menstruation is impossible, pseudo-menstruation must certainly be. The use of calcium chlorid has been warmly recom

mended for a long time, and, indeed, where one child has suffered from hemorrhage following its birth it is a good plan to give the mother calcium chlorid during subsequent pregnancies, and the same may be given to children after their birth. I think Dr. Jacobi struck the keynote of the entire subject when he said these cases were, first infections, and secondly, were dependent on a natural porosity of the blood vessel walls plus the fact that the coagulation of the blood in children is delayed. There may be delayed coagulability, brought about by some infection or some condition such as jaundice, as referred to by Dr. Walls.

CONSERVATISM IN THE TREATMENT OF ACUTE MASTOIDITIS.*

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Acute mastoiditis is a disease which has assumed an importance not to be gainsaid and is ripe for study in all its phases of pathology and treatment; surgically it can be so well handled that a conservative attitude should be taken only after a careful and full explanation to prevent being misunderstood; the author takes it more as comparative with the attitude of those who hold that in every case where there is evidence of mastoid involvement the external operation should be immediately performed.

A MIDDLE GROUND FOR TREATMENT.

The author also wishes it to be understood that by conservatism he does not mean inactivity, for the results of the waiting plan are replete with disaster. Ultra-conservatism in these cases is in reality a crime; cerebral complications are too grave to admit of anything but prompt and vigorous action.

The main object of this paper is to show that there is a middle ground for treatment, practically safe, based on well-established principles of drainage and prevention of pus developments. Major cranial operations, owing to frequent malposition of parts, anesthetic complications, etc., are too grave to be looked on lightly, and should not be done unless the conditions be urgent or the more conservative methods clearly out of place.

THE INDICATIONS.

Acute inflammation of the mastoid cells practically always comes from an extension of inflammation in the middle ear; this extension does not follow if free drainage is obtained early, hence a clear and forcible indication, which we may call our first, is to incise the drumhead promptly, not a simple puncture nor to rely on a small perforation made by Nature's attempt at relief, but to cut freely, as will be described later on. Drainage is as important here as in surgical propositions elsewhere and is the surest abortive measure.

Our second indication is to keep inflammatory action and pus development within bounds by cold or heat, a task often unsuccessful, not because the plan is irrational, but because the direction or nursing is insufficient.

THE TYMPANO-WILDS INCISION.

A red bulging drum is not the only guide as to the necessity for incision, as recently pointed out by Dench; severe pain or tenderness in a mastoid may necessitate prompt opening of the middle ear cavity, even though the drum shows no redness; this opening should be done freely, starting the knife near the lower margin in the posterior half, carrying it well through to the inner wall, up and out through the attic to bone tissue, cutting then deeply out along the posterior superior wall of the external canal. The latter portion of the incision not only drains the attic, but it relieves the periosteal tension at the point most needed, the lower wall of the mastoid antrum. This well-known paracentesis and internal Wilds incision becomes, in a measure, a subsitute for the more radical external operation by chisel and curette if thorough after-treatment be carried out.

In this connection allow me to call attention to the fact that very often the circulation is so much relieved by the opening thus made, that reparative processes close up a portion of the opening too early, so that we find tenderness, fever, etc., returning after one to three days, which is easily subdued by a fresh incision. Cold or heat will not avail unless drainage be free.

In neglected cases the effects of abortive attempts must be carefully scrutinized, and unless unmistakable improvement is noted within twenty-four to thirty-six hours the securing of a still better drainage is imperative; again allow me to say, that ultra-conservatism may become in reality a crime, and personally I wish to condemn such a position with all possible force. If the tympano-Wilds incision has not been thorough it must be enlarged or external operative measures instituted.

The plan outlined above which, as stated, is from a comparative standpoint conservative, has been advocated by the author at each opportunity since 1896. In a discussion before the American Laryngological, Rhinological and Otological Society in Pittsburg in 1898, I called attention to the great value of conservative methods and reported a severe case, showing the benefit to be derived from a prolonged and continuous application of cold, even beyond forty-eight hours where such treatment brought relief.

I was not alone in this, as following in the same discussion Myles of New York stated that he found, in examining his records, that by conservative methods of treatment, he had cured over one hundred cases, which, according to the rule of some men, should have been operated on.

In support of the conservative position, I can now also report forty-five consecutive cases, where I deemed it safe to try abortive measures, that I have recently treated on these lines without a failure, twenty of them being in private and twenty-five in hospital practice. These were acute in variety, but each case presented the indications usually laid down for the external operation, and each one, in my mind, had an undoubted involvement of the mastoid and pus in the cells of not a few.

NARRATION OF CASES.

If you will allow the time I will briefly report three cases:

CASE 1.—Mr. P., sent to the Hospital of the Good Shepherd by Dr. F. W. Smith, Syracuse, N. Y., June 16, 1899.

Examination.—Deep stupor, from which he could scarcely be aroused; could answer nothing intelligently and would at once drop into snoring sleep. Temperature, 102; pulse, 120; very free pustular discharge from the right ear, the auricle of which was pushed well forward by the swelling over mastoid. Pressure on the mastoid was about the only thing that would arouse the man to show that he had any consciousness.

Treatment.—The patient was admitted early in the afternoon, but, as my telephone communications were cut off, those in charge at once started the treatment of continuous cold and cleansing irrigations, until such time as I could be reached, which in this instance was late in the evening. When I visited

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. J. P. Barnhill, C. R. Holmes and G. H. Makuen.

the hospital, I thought that nothing but extreme operative procedures would avail, as he was still in somewhat of a stupor, from which he could only be aroused to say yes or no; but as the temperature had dropped two degrees, and the pulse thirty beats, from the treatment they had started, I simply cleared out the ear, enlarged the perforation in the drum, cut out along the superior posterior wall as above described, and left him to the care of the nurses, with definite, explicit directions about keeping the local applications of ice constant and the canal free.

The next morning I visited the hospital early, prepared and expecting to operate externally, but found the patient conscious and so decidedly improved that such a procedure was not to be thought of, and I am happy to say he went on to a complete recovery.

This case is reported more to show what prompt, intelligent nursing can sometimes accomplish than to amplify the fact that such severe cases may at times recover. As a rule, it is my habit to do the external operation in such extreme cases, and I hope no one will infer that I advocate conservative treatment in cases showing such evidence of cerebral complications; in these there appears no safe rule except to immediately open and clear out the mastoid.

CASE 2.—Dr. C., a veterinary surgeon, brought to my office by Dr. D. H. Murray, Syracuse, giving history of acute pain, swelling, etc., behind the ear with some discharge for five weeks.

Examination.—The temperature, tenderness and infiltration of the tissues behind the ear were also intense, pushing the auricle forward to a right angle with the head, making the typical picture of a bad mastoid case.

Treatment.—I at once made the internal incision described and sent the patient to the hospital, where he was treated in the thorough manner that such cases demand, with the result that in six days he was able to leave with the drum healed, all tenderness removed and no rise of temperature or pulse. The patient assured me that during this period there had been no moment between the time he entered the hospital until he left to come to my office, when the temperature of the mastoid tissues were allowed to get above that obtained by the ice-bag application. The cold was continuous and persistent.

CASE 3.—Miss H., age 18, brought to the Hospital of the Good Shepherd by Dr. Countryman, Central Square, N. Y., May 25, 1900, who stated that the ear trouble had followed an attack of scarlet fever six weeks previously, and that the pain, tenderness and swelling had been present behind the ear for two weeks.

Examination.—Thick purulent discharge, tissues over mastoid much swollen, the diffuse inflammation almost closing the external auditory canal. The whole right side of the head and face so swollen that eye was closed. Temperature stood at 102, pulse 120, and the patient was suffering intense pain in the ear and mastoid.

Treatment.—Dr. Countryman had immediately brought the girl to the hospital on the case coming under his care, hence he had instituted no measures for relief, so it was thought best to do paracentesis and the internal Wilds incision and apply ice, watching the case carefully. Next morning her temperature had dropped to 99, pulse to 90, and the patient made an uninterrupted recovery, the drum healing in five days, but pus continued to come from the incision in the superior posterior wall for two weeks.

The selection of Cases 2 and 3 from my records is because they represent so well the types of uncomplicated mastoid inflammation, on which my conclusions are based, and were each referred by well-known men, whom I know will let no improper claim on my part go unchallenged, but in no such would I consider it safe to adopt these more conservative methods of treatment under the operator remain within easy reach.

It is not always possible to get such quick and absolute recoveries, as I found in treating a series of cases that accompanied an epidemic of influenza that we had here in the winter of 1901. Several of those had a purulent discharge lasting from three to six weeks, but in all my practice there has never been left a chronic otorrhea except in one case, where an anemic lady, aged 68, who left town as soon as a recovery from active symptoms were brought about: even now her discharge is so slight that, on a recent visit to the city, she did not come in to see what could be done about it until the last day of her stay.

THE ESSENTIAL DETAILS OF THE AFTER-TREATMENT.

Sufficient nurses, giving faithful care, are most essential factors in the conduct of these cases, and their intelligent co-operation explains why one man gets so much better results than another, from apparently the same line of treatment.

With the nursing ordinarily given mastoid cases in private families, or even in our hospitals, I would feel no safety in relying on the conservative methods described; but where the free drainage is secured and conscientious nursing is rendered, with less than a five-minute interval between ice bags, we seem to almost always get prompt effects.

Ice should be kept on continuously for hours, the object being to drive the blood from the part, and it is much better to keep it out than to have an interval of recongestion, as will occur if the nurse be slow in refilling the bag. Intense heat may be used with benefit, if the nurse display the same energy, though I prefer cold, and find that by employing a little tact it will be tolerated by the most sensitive; the steady, persistent application of either of these measures keeps the blood vessels contracted, which condition allows Nature good opportunity for resolution and repair. If such expert nursing and attention can not be given, external operation becomes the safest and only procedure.

As stated before, I am not alone in objecting to the wholesale chiseling now in vogue, though this may be the first paper dedicated to conservatism, neither am I alone as to the utility of keeping the parts at a low temperature. Richardson of Washington read a paper before the Laryngological, Rhinological and Otological Society last year, in which he pointed out the great value of continued and prolonged ice applications in the treatment of this disease.

At the very least, we should institute the abortive measures in that interval that usually exists between the time when we first see or have charge of a patient until the final preparations for operative work are made. If we leave the case to ripen we will surely find pus and softening. These abortive attempts in my practice have never done harm, and I feel certain that if the work and nursing are thoroughly carried out, over 50 per cent. of the external operations can be avoided. There are too many cerebral complications, too many histories of infected lateral sinuses necessitating ligation of the internal jugular four or five days after the external operation, to warrant us in taking unnecessary risks. While skilful, experienced men obtain an acute tactile sense that tells them when instruments approach dangerous ground, the less experienced make many blunders; what is really a trivial operation with the one man becomes with the other fraught with much danger.

The objection that the Sprague ice bag, like opium, masks the symptoms, in my opinion, need not be entertained if free drainage has been established. The relief we get from its use in reality indicates a lessened morbid activity, and if acute symptoms do super-

vene, it is because our drainage is being obstructed. Extension of inflammation is hindered, because ice, here as well as elsewhere in the body, seems to prevent development of pus elements. In fact, with free drainage and good nursing I find that I rarely have to resort to the external operation except in neglected cases, or in those associated with a chronic otorrhea.

The reason why these inflammations invade deeper structures is because there is pressure; if we relieve this pressure promptly by letting out the blood and pus confined within the middle ear and mastoid antrum by what I have called the tympano-Wilds incision, we have taken the first important step. If we maintain this free drainage, modify the development of pus elements by constant ice application, and keep this treatment up as long as improvement follows, the danger of intercranial involvement is reduced to a minimum.

Continued and increased experience more than fortifies me in the position taken in 1896 and lends me courage to again advocate conservative but prompt treatment along the lines above mentioned, in acute cases without cerebral complications.

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DISCUSSION.

DR. GEORGE L. RICHARDS, Fall River, Mass.—I have just had the misfortune, the first time in several years, to lose a mastoid case after following out the lines the essayist has advocated, and I would rather operate thirty times unnecessarily and save my patients than to be a so-called conservative and lose one. In the case I referred to, free paracentesis was done, the icebag was applied, pain disappeared, temperature became normal and the case apparently improved, and the young man went out of the hospital and returned to work. He appeared at the hospital five days later with symptoms again present and pus in each mastoid. Although several operations were done and both the dura and the sinus uncovered, the patient developed meningitis and died. This question of conservatism is one the general practitioner always has in mind, and he is usually so conservative in the first place that he will seldom let us operate early enough. We should operate just as soon as there is tenderness behind the ear, and any considerable edema or other symptoms pointing to purulent or serous mastoiditis. There is risk in waiting until to-morrow, as we are often compelled to do, especially by the physicians in the smaller towns. In reference to the application of cold, I will admit that it apparently improves the symptoms, and the patient seems to feel better for the first few hours after its use. It has recently been held that the application of cold only drives the process deeper in and masks the symptoms. The fact that some cases get well is not a conclusive argument in favor of such conservatism as the essayist advocates. We should not pursue a course of treatment that is not surgical in the presence of a purulent process. My case happened to be a serous case, probably due to the pneumococcus, and I do not suppose any treatment would have saved him. Nevertheless I afterward regretted that I had not opened the mastoid at the first suggestion of trouble. I entirely agree with the Doctor's method of paracentesis, which is undoubtedly the best. But in the presence of mastoiditis, the bone should be opened as soon as the diagnosis is made.

DR. W. L. BALLENGER, Chicago—I agree with Dr. Snow's method of paracentesis. If you are going to incise the drumhead at all, do it freely, carrying it to the upper and posterior wall of the meatus. I arise especially, however, to speak against the general trend of the paper. I do not believe it is safe to recommend so simple a method of treatment for the cure of such grave cases as Dr. Snow has reported to us this afternoon—not but it cures many of them, but because it will not cure some of them, as Dr. Richards has pointed out. When cases come to us with grave symptoms, who have had, some years before, some one of the exanthematous fevers followed by acute mastoiditis, which apparently recovered, they may become at a later period among the most grave conditions coming under our observation. I do not believe it is wise to advocate, in print at least, such conservative measures as the Doctor has advanced this afternoon, for the reasons Dr. Richards has already pointed out. A study of acute suppurations in general of the middle ear will show how readily the process becomes a chronic one, often when there are no symptoms that the patient can observe. They often tell us that there is no discharge from the ear, whereas an examination will show pus to be present. That is one of the most common experiences I have in my clinic. So we can not trust to the statements of the patients that they are cured. The forty cases reported by the Doctor will probably not give 100 per cent. of cures, as he has reported. In a few years probably 25 per cent. of them will show a return of the disease. So I would object, not to the treatment but to the statement that it is a method of treatment that will cure a large percentage of the cases which we now think should be operated on by the post-auricular method.

DR. C. M. COBB, Lynn, Mass.—My experience is that the cases with swelling and perhaps involvement of the superficial mastoid cells are the cases that you can most safely treat by the so-called conservative method, but the other cases you can not. I recall a case that was free from pain for five weeks, and I began to believe that he was getting better and that he would not have to have a mastoid operation. There was no swelling, no fever and no pain. He did not hear very well. He came to me then with a swelling above the temporal ridge, and I recognized a perforation under the temporal fascia. My experience with those cases is that if they show swelling above or around the ear, extending to the face, they have either a perforation of the cortex or an involvement from a lateral sinus thrombosis and they need surgical treatment. Surgical treatment may not always save their lives, I know, but they die if you do nothing. A collection of pus under the cortex in the mastoid is not a thing with which we can afford to temporize in any way.

DR. J. E. BROWN, Columbus, Ohio—Dr. Snow's paper well sets forth the strength of conservative treatment. We should bear in mind, however, that cases treated conservatively frequently relapse. Not only may they furnish cases of chronic middle-ear disease later, but they may be subject to early relapse, this coming on three or four weeks after the original disease. The fact, too, that in many of the cases which come to operation where symptoms have been few and obscure, we find extensive and serious involvement of the tissues, makes conservatism sometimes dangerous. The class of cases represented by the first one reported by the essayist is one in which we can not hold that it is safe to delay operation. The Doctor achieved a cure in this case, yet taking a large number of cases presenting exactly similar symptoms, I do not believe that even a fair percentage of such cases would be cured by the same line of treatment. I believe the experience of otologic surgeons to-day demonstrates plainly that the greatest safety to the patient lies in prompt operation.

DR. A. H. ANDREWS, Chicago—The position of Dr. Snow is, I believe, to say the least, dangerous. It has occurred, no doubt, in the practice of all of us to have cases get well under such treatment, or under even less radical treatment than he has indicated or even without any treatment at all. Perhaps a considerable number will get well without treatment, but that does not prove that we should not treat them, by any means. Pus travels in the direction of least resistance, and as one of the gentlemen said, in discussing this paper, we might temporize with those cases in which the swelling was superficial. The cases of mastoid disease without superficial symptoms are far more dangerous. If we agree at all with Dr. Snow's position, we ought to make a more definite distinction between those cases which are primary and may be treated as Dr. Snow suggests, and those cases which have had otitis media before, or in which there is any possibility that they may have had otitis media before. If there is a history of repeated attacks or that this is a second attack, no such treatment is permissible. Some of us who practice in the larger cities come to think that Nature is not so kind to our patients as she is to those under more favorable circumstances. I do not believe that the treat-

ment which Dr. Snow advocates and which has seemed to be so successful in his hands, would bring about the same results with the patients I have to treat, especially my clinical patients.

DR. L. C. CLINE, Indianapolis—If I should ever be so unfortunate as to get an abscess of the ear and it confined itself to the tympanic cavity, I want Dr. Snow to see me, but if it travels and gets into the mastoid cells and antrum, I want Dr. Richards to see me. I think much depends on our diagnosis. If we are able to diagnosticate these cases we will be better able to determine on which to operate and on which not to operate. I think, however, the advocacy of Dr. Snow's position to the profession generally is a dangerous thing. The majority of physicians are opposed to these operations. They are extremely conservative and occasionally, when I think it is absolutely necessary to operate, I have difficulty getting permission to operate until it is perhaps too late. It seems to me it is safer, in this instance, to err in over-operating rather than under-operating, until we get the practitioners of the country posted or educated up to the point that they will permit us to operate. So much depends on our ability to observe the cases and determine the diagnosis. If we have pus in the mastoid cells we should do just as we do when there is pus in the appendix. If we err at all, we should err in the direction of early operating.

DR. J. F. KLINEDINST, York, Pa.—I have tried the treatment outlined by the Doctor in a number of cases. I believe it is a good one in early cases, but if we do not see the cases early, it is advisable to open the mastoid cells. There is one therapeutic measure, to which the Doctor has not called attention, which I believe does good in many early cases, and that is local bloodletting, by either the natural leech or the artificial leech. As to the use of cold, I recall the case of a boy about 5 or 6 years of age. The case seems to show that sometimes the general practitioner wants to be too conservative in these cases, simply because he does not understand the pathologic changes that take place. I advised this physician, when his boy was taken sick, to allow me to incise the drum-head freely, but he refused to have it done. Then we kept ice on for forty-eight hours, almost continuously. There was considerable tenderness over the mastoid and some slight edema. Fortunately the case got well, while I was continually urging that the mastoid be trephined. It was one of those lucky cases that get well under the application of ice when you are almost sure there is pus forming in the mastoid. In chronic cases of purulent otitis media with acute mastoiditis trephining ought to be done, because in them there is pus gathering in the mastoid cells, producing the secondary inflammation and infection.

DR. G. MCAULIFFE, New York City—There is no doubt that the cases to which Dr. Snow's treatment is applicable are those in which the process is limited to catarrh. I do not find the treatment has been successful in cases in which there is pus in the mastoid cells. The principal danger in operation as urged by the Doctor is the infection of the sinus. This has often been opened without any special symptoms. The general run of mastoidites are so septic that nothing short of a radical mastoid operation should be considered. The thorough bloodletting, which occurs during the operation, is one of the best methods of depleting the mastoid. All our cases of sclerosis have arisen from treating the cases by so-called conservative methods. The conservative treatment gives us some of the most difficult secondary operations in mastoid surgery. I find, in regard to drainage, there is no drainage so poor as that derived from the so-called internal Wilde incision. The antrum keeps taking a lower and lower position in aural development. As age goes on it gradually sinks down back of the posterior wall of the canal. The pus can gravitate into the tympanum only when the patient is in certain positions. The antrum is the last thing in the consideration of the disease. When the stellate cells are involved in the floor of the antrum and the cells that are shut off from the antrum by the layer of compact tissue that forms a shelf over the lateral sinus, how is any incision in the tympanic cavity going to drain the granulation tissue or pus here? Many of the best things in mastoid surgery have been gained from general surgery. There is nothing better than good counter-drainage. The antrum has always been regarded as part of the middle ear and does not come into consideration in studying the mastoid. The hearing is better after the operation and connective tissue changes less.

DR. P. J. GIBBONS, Syracuse, N. Y.—In Hippocrates' time and until after Galen we had radical treatment. Then the treatment was conservative until about twenty years ago, since which time we have again been radical. I know Dr. Snow does radical work, just as the rest of us do. It is important that we remember our internal medicine and not consider mastoiditis a local disease. Often there is back of it a constitutional condition. In the way of therapeutics we have internal medicine and local medicinal agents, such as the suprarenal extract. But if you do not open the mastoid cells you will regret it, as you would if you did not open up the skull by trephining; but you will never regret having operated. These should be treated as surgical cases. We should also consider the internal medicinal treatment of these cases and what the sinuses are there for. The mastoid cells and the sinuses throughout the head serve both to lighten bone and to increase the hearing. They probably also have some effect on the ions of the blood. You will find the "rheumatic diathesis" we are jumping into is a big boat-like "malaria" and the "grip." Such diseases may be due to trouble of the sinuses. Dench and a number of recent writers have been radical, and for some twenty-five hundred years we have had conservative treatment. But Dr. Snow's paper will probably be misunderstood, especially by the laity. No doubt the Doctor is misunderstood here. It is a dangerous paper for the general practitioner, and especially so for the laity.

DR. NORVAL H. PIERCE, Chicago—It is probable that Dr. Snow has been misunderstood, for we all know that he can be as radical as any one of us, and, therefore, in order that he may set himself aright, I would like to have him state what he believes to be the proper indications for opening the mastoid in acute cases. Operating in this region is an easy matter for one skilled in the technic, and it is exceedingly hazardous for one not so skilled. The antrum and the mastoid cells are connected, and suppuration in these parts may get well without operation. Softening of the bone in the presuppurative stage may recover without operation. But if we have a case in the sixth week of inflammation, with a temperature of 102, with swelling of the posterior superior quadrant of the membrane and infiltration over the mastoid region, and if it is said that such a one is a proper case for conservatism, then I would like to ask, when should we operate? How frequently have I cut down on these cases, not only with such symptoms, but cases going on for five or six days with slight pain and no infiltration and a slight purulent discharge from a perforation in the posterior superior quadrant, and found the whole bone necrotic, the sigmoid sinus uncovered and the tables of the skull open by the necrosing process. We would find, within 24 hours, perhaps, sigmoid sinus thrombosis and meningitis. I think Dr. Snow must set himself aright, for the impression I get, at least, from his paper is contrary to modern teaching and is dangerous if allowed to proceed.

DR. SARGENT F. SNOW, Syracuse, N. Y.—Perhaps the best way to answer the many men is to begin with the last speaker. Dr. Pierce asked when I considered it proper to operate on the mastoid. I will answer that by saying that if our patient comes to us with evidence of intracranial involvement it goes without saying that we must operate as early as possible. That is, of course, one indication. Then, again, if we have a patient that gives a history of recurring inflammations, recurring attacks of these troubles that have been neglected, we are often forced to operate externally. But if the patient comes to us with an acute inflammation, though he may have badly swollen tissues over the mastoid, though he may have the auricle extending forward, with severe pain and perhaps high temperature, if it is an uncomplicated case and primary, we are very safe in making the incision and applying ice as I have described for the first 12 to 24 hours. If our patient then shows no improvement, but shows a condition a little worse, perhaps, or even the same, we must use great care about going further in our conservatism. I do not advocate making this internal incision, applying ice and waiting indefinitely. We must have

good drainage and definite results from it or we must operate externally.

Dr. Richards speaks of the effect of this paper on the general practitioner, and I quite agree that it would be unfortunate if this paper should create an impression among the general practitioners that we would tolerate anything but prompt, vigorous action. I have tried to use the best language to impress the idea of vigorous and skilled action. There must be no half-hearted attention, and we must not allow our nurses to be negligent. The cases must be watched with great care. I go into these cases, even in the mild ones, with a great deal of trepidation, for I recognize their gravity. But my experience is that if we do this work promptly, on the cases that come to us reasonably early, not those so far along as the ones I related, we are safe in a conservative attitude. How many of us operate the same day, any way? There is usually an interval before operation, and we ought to use that interval and make our first visit count. Secure drainage and put on the ice. If we leave the case 12 to 24 hours without proper care, with only the drainage that Nature gives, it will ripen into a worse condition. If the nurse applies ice after free drainage you will get the same results I have, but it must be kept on continuously, without marked intervals in the changing.

As to doing the external operation on every case where there is swelling and tenderness over the mastoid, I must again say that I do not believe it is justifiable; if we give them a chance they come out without operation. As to the question whether we can cure a large percentage or not, I would reply that in my opinion over 50 per cent. of the primary cases now operated on externally can be handled in the way I have suggested. Dr. Cline thinks the difficulty is with diagnosis. It is very possible that I have made some mistakes and that I have not had pus in the mastoid in some cases, but I have not reported any cases but those in which there were well-marked evidences of pus with tenderness, swelling and pushing forward of the auricle. The principal point to be borne in mind, if we use the conservative plan, is that we must select the cases that come to us early, have our incision free and know that our nurses thoroughly understand their duties.

TREATMENT OF CHRONIC PURULENT OTITIS MEDIA.*

D. A. KUYK, M.D.
RICHMOND, VA.

When we take into consideration the vast number of people, both children and adults, who suffer from chronic suppurative ear disease, the greater majority of whom will allow their disease to continue and progress, thereby courting disaster and perhaps death, rather than submit to operative intervention, it behooves us to endeavor to study out some plan of treatment other than the surgical for the relief and cure of these sufferers, and any time given to the study of this subject is time well spent, for we then fulfill the task to which we have dedicated our lives—namely, the relief of suffering humanity.

The relief and cure by conservative essentially non-surgical methods of a large per cent. of these cases is not only probable, but highly possible, and if we can give these patients a fairly hopeful prognosis very many more of them will submit to treatment and be saved from the imminent danger to which they are continually exposed and from the mistreatment applied by themselves, their friends and the army of quacks who prey on the mental and physical sufferings of all the human family who are the victims of chronic affections. If the conservative treatment of chronic purulent otitis media presented a large percentage of failures; if the benefits of this treatment were but temporary, or if this treatment subjected the patient to even the slightest danger, I should apologize for trespassing on the time of this Section by the presentation of a paper on this subject, but the results of this treatment, as used for the past six years, have proven so satisfactory and continue to be so good that I can not refrain from giving expression to the faith that is within me, and plead with those who differ from me to give these cases more consideration, more time, more patience and more conservative treatment before resorting to the radical surgical measures, recommended as the only positive cure for this disease, which are not only distasteful to the patient, but are not so invariably successful as to enable one confidently to predict a complete and permanent cure.

True it is that when a patient comes for treatment who has had perhaps for years a purulent otorrhea, foul smelling and profuse, we can not look within the middle ear and definitely ascertain the extent of the process or the condition of the structure involved, yet it is about as exact as our actual knowledge of the condition of the internal organs of the body when they are diseased, yet they are successfully treated and the patient cured; it does not therefore so much matter that our treatment must be largely symptomatic. Experience and observation teach that it is quite possible to accomplish much good in these cases, very often completely and permanently to cure them, without resorting to radical surgical intervention.

Naturally, most patients shrink from surgical operations and are often permanently frightened away by dogmatic insistence that the mastoid operation, more or less radical, alone offers any hope. If now we can suggest a plan of treatment essentially non-surgical and more in consonance with the patient's preconceived ideas, that offers a fair chance even for the cure of the disease, the patient readily submits to treatment, and in the event that this treatment fails to effect a cure the patient is then in such a frame of mind that the only remaining alternative—surgical intervention—is accepted without fear or hesitation, we will have done the patient no injury by the time given to the trial of the conservative treatment, but we will have created one of our greatest aids to a successful termination—a calm and composed mental condition and that of unalterable confidence in the surgeon. Then, too, the treatment is popularized and more patients will present for treatment by a method that is essentially non-surgical and to them seems more humane and which certainly is to them less fearful and often, very often, productive of the most beneficent results.

Because now and then an anomalous case is seen in which, while the symptoms are very insignificant or are very much masked, the pathologic changes are found to be profound and extensive, it does not vitiate my plea for conservatism, for such cases are rare exceptions. Should we, however, at any time deem an operation imperative we have the patient under our immediate observation and can institute whatever procedure is deemed best rather than have the patient judge for himself, as so many of them will do, when not under treatment; in fact, they often insist on doing so, anyway. Before going further it is, I hope, thoroughly understood that in the cases selected for conservative treatment there must be no evidence or indication of mastoid involvement, for this would at once exclude every form of treatment other than the surgical. Permit me briefly to give some results of this treatment in a few cases without presenting tables of exact figures.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Laryngology and Otology, and approved for publication by the Executive Committee: Drs. Emil Mayer, C. R. Holmes and G. H. Makuen.

In one case—in my own person—the ear has remained dry, free from all pain, comfortable and with fair hearing power—though suppurating and at times excruciatingly painful for fifteen years—for the last eight years.

Several cases have gone for five and six years and to the present time have had no recurrence. A considerable number have passed the last three or four years without further trouble. A greater number have for two years past gone on in comfort and still more for the twelve months past. The vast majority of these cases retain good and useful hearing. True, a few cases that lacked moral courage and persistence, or who would not obey instructions, discontinued treatment, but their last state was not one whit worse than their first, rather better. At least five cases, three tuberculous adults, and two children with inherited syphilis, made no improvement, and had to have the classic mastoid operation.

Before going further permit me to make confession to a sin of omission, namely, the microscopic examination of the aural discharge, but when one is fatigued with the duties of the day there remains little inclination for additional and fatiguing work. It is hardly necessary for me to say that one must ascertain as nearly as possible the existent condition of the ear or ears, also that of the nostrils, the various sinuses, the throat in all its divisions and the eustachian tubes (not forgetting the systemic condition), and removing all that is pathologic.

Now, any course or method of treatment which is inflexible, which is dogmatically and persistently pursued in each and every case alike of this affection, or, for that matter, in any disease to which human flesh is heir, must necessarily fail in many, I think I may safely add in a great number, and then the course or method advocated falls into disrepute in one's own mind, with the professional men who give it trial, and with the patients who submit to the treatment.

One may have predilections for a certain line of treatment, but they must often be surrendered to the requirements of the case. Treatment, indeed, should and must always conform to the needs of the case rather than the case conform to preconceived ideas of treatment. We must learn to discard at times our idols, dear as they may be to the professional heart. When this is done then will we obtain that happy consummation so much and so devoutly desired.

Necessarily the first procedure in the treatment of purulent otitis is the cleansing of the ear, and even on this apparently simply operation there exists a vast diversity of opinion. Yet so important is the manner of its performance that on the method of cleaning largely, I believe, depends the success or failure of the case.

The absolute dry method is employed by the writer and by him advocated; only in very exceptional cases is water employed, and for the reason that the frequent and long-continued and often forceful syringing employed by the surgeon and the patient in the first place liquefies the dense, heavy and ofttimes semigelatinous purulent or mucopurulent secretion, this liquefaction plus the force used with the syringe filling the middle ear, thereby producing more or less distension by reason of more or less pressure, favors percolation through openings into practically hidden and uninfected cavities or areas, the syringing ceases, the pressure falls, the perhaps only slightly distended tissues collapse and the infected fluid remains behind, leaving the germs on an ideal moist and warm breeding ground, where they multiply and carry on with unceasing and relentless vigor their pernicious poisoning processes. In the second place, the syringings cause maceration of the epithelial lining of the external auditory meatus and also of the middle ear cavity, the tissues become literally waterlogged, white and bloodless, hence of greatly diminished vitality and lessened resistance, rapid desquamation ensues, aggravating and prolonging the purulent process. In the third place, more or less liquid is left stagnant and infected within the middle ear; this not only does harm, but dilutes and renders ineffective any after medication that may be employed.

All visible secretion is removed with dossils of dry absorbent cotton, the Siegle otoscope is then used to aspirate the secretion from the hidden recesses of the middle ear, the quantity of the retained secretion is then estimated and its character determined; this process is repeated until the middle ear is free and clean and each time the secretion is removed with dry cotton. This aspiration is valuable because it increases the circulation of the middle ear, increasing its blood supply, so revitalizing and rebuilding diseased and destroyed tissue.

Next, a current of compressed air at moderate pressure is passed into and through the middle ear, usually through the eustachian catheter, and now, if the auscultating tube is used we can ascertain if any secretion still remains in the middle ear; if any secretion is forced out this is removed as before and the air current again injected and all moisture even is evaporated. We can combine with the air current a stimulating vapor such as iodin or any medicament we may select. It is of the greatest importance to get the entire aural tract dry, for we are then absolutely sure that all of the purulent secretion is removed; besides, the passage of the air current seems to stimulate the sluggish circulation and greatly aid the reparative processes; then, too, any medicament we may select is absolutely sure to come into contact with the diseased membrane undiluted by retained secretion or by the water left within the ear after syringing, and we can reliably depend on getting the full effect of the drug.

A few cases of chronic purulent otitis were treated by this cleansing process alone, using no drug or other means to modify the course of the disease, and most excellent results were obtained, but it necessitated more time and more treatment than the cases which were medicated after drying.

The patient is taught to pursue the same method of treatment at home, excepting the pneumatic otoscope; some cases employ that instrument also, substituting for the compressed air some form of nebulizer. A not very expensive apparatus is a bulbous glass vaporizer having a rubber air bag attached to it. This procedure is repeated twice a day; if the discharge is very profuse, oftener.

Adults are instructed to carry absorbent cotton in a box in the pocket, and so soon as any secretion is felt in the aural canal to remove it with a dossil, and repeat until the ear is quite dry. This is preferable to the gauze or any other kind of wick to drain the ear, for too often the wick is left in the ear too long and maceration and desquamation result, just as after syringing.

Of course, in treating children our methods must vary with the nervous temperament of the child, but most children quickly finding that no pain is inflicted and that comfort follows, will submit to all the details almost as well as the adults. The entire ear canal and whatever of drum membrane and ossicles is left, also

parts of the middle ear, can be now leisurely and accurately inspected.

Small perforations must, of course, be sufficiently enlarged to ensure free drainage—this is the great and all important essential to a successful termination—granulations or polypi removed or destroyed, necrosed ossicles removed, denuded or necrosed bone carefully curetted. If the eustachian tube is strictured it must be dilated until it is freely open, if this can possibly be done—for free drainage is as necessary within as without. If it is found in a state of catarrhal inflammation, as is evidenced by the peculiar inodorous gelatinous secretion, effort must be made to remove it by aspiration through the eustachian catheter rather than by blowing it out through the auditory meatus.

The cleansing process in an adult patient requires about fifteen minutes, rarely more, but it is time well spent, and though a troublesome one, is repaid by the good result usually obtained.

The host of drugs and combinations of drugs recommended is proof conclusive that we have not yet found a specific for purulent otitis media.

To fulfill the indications we must employ a drug that possesses powerful antiseptic and astringent properties and yet be stimulating. We need not go to the modern chemist for some synthetic chemic product that will supply our need, for we have an old, time-honored and well-tried drug that has never failed to produce the effect desired if only we learn to use it strong enough and often enough. Nitrate of silver is a drug that possesses undoubtedly the threefold function of an antiseptic, an astringent and a stimulant, as witness its good effect in gonorrheal ophthalmia or in ophthalmia neonatorum if it is used in sufficiently strong solutions.

Who is it that has done any eye work who has not seen the profuse virulent secretion of either of these ophthalmias melt away and become innocuous, the intensely congested and swollen conjunctiva promptly recede within normal limits by the application of silver nitrate solutions. Likewise will it affect the vast majority of chronically suppurating ears if first we remove all secretions and then dry the ear in all possible parts with the air current to avoid neutralization of the silver nitrate by the formation of an albuminous coagulate and thus fail to get its beneficial effect. A solution of thirty grains to the ounce is the weakest begun with; the solution is instilled comfortably warmed into the external auditory meatus, care being taken that none of it gets on the face or on the clothing, then with the otoscope the solution is gently and slowly forced into the middle ear so as to allow the solution to come thoroughly into contact with all parts of it, the pressure is steadily maintained for a few moments, then again increased so as to coax the fluid to go still further down into the eustachian tube; the moment the fluid reaches the throat the otoscope is removed, the patient holds the head inclined for a minute or two, any excess of fluid is removed, a dry cotton plug is inserted. This completes the treatment, which is repeated tri-weekly.

If after two weeks' treatment there is no amelioration of the discharge or of odor a solution of sixty grains silver nitrate to the ounce is substituted for the weaker one, so the strength is increased until a one hundred and twenty grain solution, the strongest that has yet been used, is employed. Occasionally the ear after several instillations of the silver solution will become sore and sensitive, when the use of solution is withdrawn and bismuth formic iodid powder is insufflated and forced into the middle ear in the same manner as was the liquid.

The bismuth formic iodid is strongly antiseptic, deodorant and astringent and certainly promotes cicatrization and is hence a useful agent in this disease. When the ear becomes quiescent the silver solution is again employed. The patient between treatments uses nothing but dry cotton to keep the ear clean and the nebulizer to dry the moist mucous membrane and endeavors by frequent use to keep it so. I always insist on careful and thorough home treatment, explaining to the patient the necessity and importance of the procedure and of thoroughness in its application.

Even after all discharge has subsided I still insist on the use of the air douche, medicated or plain, to be used at first once or twice daily, then twice weekly, and so to be continued for an indefinite length of time until the mucous membranes regain their lost vitality and become strong and non-secretive, remaining perfectly dry without artificial assistance. There are some cases which demand more than the mere office treatment to keep the ear aseptic, and, indeed, there are some patients who are not satisfied unless they are themselves dropping something into the ear, and to these I give a preparation consisting of menthol, camphor, formalin, hydrogen dioxid and alcohol, known as menthoxol, diluting it with equal parts of glycerin; this, after the ear is dry, is used in the same manner by the patient as the silver nitrate is used in the office, substituting the finger for the otoscope; the additional use of this mixture gives us in some cases most excellent results when the nitrate alone is insufficient. When four or six weeks of this treatment produce no amelioration of the symptoms we must conclude the disease process is too extensive or the bone necrosis too great to expect benefit from anything short of surgical measures, and such should be resorted to without delay to prevent the dangers with which all otologists are so well acquainted.

Yet, I still plead for more conservatism in the treatment of these cases, feeling convinced that many, though suppurating for years, have but limited areas of chronic suppurating membrane, easily and successfully treated and thus spared the major operation.

It is, however, our plain duty to study each case impartially, without fear or favor, laying aside our predilections and our prejudices and working only for the welfare, immediate and remote, of the patient who entrusts his case and perhaps his life to our care.

When we shall have learned to conquer ourselves for the benefit of our patients we shall be greater than him who conquereth a city, and our patients will rise up and bless us.

DISCUSSION.

DR. GEO. L. RICHARDS, Fall River, Mass.—In the main I try the dry treatment for a long time, or some similar method, before resorting to anything radical. You may take one of these suppurative ears and clean it out by the dry method and then, for a sort of experiment, syringe it out and you will often be surprised by the amount of debris that will come out. So it is questionable how well we are able to clean them by the dry method. In my own practice I invariably wash them out the first time and then use the dry method. Especially when there are one or more perforations, it is questionable whether you can get them clean by the dry method. Gauze, I think, is better than cotton for drainage, for it acts more like a lamp wick than cotton does and facilitates drainage better.

DR. A. H. ANDREWS, Chicago—I have sometimes been surprised, not as Dr. Richards has been, but at the amount of pus and debris which I could wipe away after the ear has been thoroughly syringed. I want to agree with the treatment given by Dr. Kuyk; I believe it is good and that there is no better

routine treatment. There may be occasional cases in which it will be necessary to syringe or to medicate in other ways, but I agree with his treatment in the main.

DR. G. V. WOOLEN, Indianapolis—No suction at all is required to remove the fluid. If there is anything that has been determined it is that hydrogen dioxid is a cleanser. You cleanse the ear, not with a syringe, for it would be just as bad as this suction to use a syringe on such an ear, but take an ordinary alkaline spray, such as you use in the nose, and spray the ear gently, mop it as the Doctor has suggested, if you can, without touching the hole in the tympanum. I think it was Dr. Randall, in Philadelphia, who said that there is nothing more difficult than to measure the distance in the ear, in doing probing or mopping. Next let the patient lie down; fill the ear with a 25 per cent. solution of peroxid of hydrogen and let that do its work. After securing the destructive action of this remedy on the pus corpuscles and dirt, we may wash it out and repeat. Continue its use if necessary for an hour, or until the bubbling ceases. The patient can tell you that he hears the bubbling sometimes even after it may no longer be observed in the meatus. I wonder oftentimes how and why it is that men, who know as much as physicians, are so afraid of moisture, so afraid of the water that God has given them so abundantly. They are so afraid of lacerations and all such things. After the hydrogen dioxid ceases to bubble, I like to use a solution of bichlorid of mercury, 1 to 1000. Then there is another remedy I like very much. It is boracic acid. One year we hear a remedy or method of treatment extolled very highly and the next year it is knocked to pieces; the next year it reappears, to be knocked down again perhaps the following year. But I know nothing better than to blow into the patient's ears boracic acid after the above treatment and let the patient go home well pleased.

DR. G. MCAULIFFE, New York City—In the treatment of otitis media we ought not to forget the ordinary landmarks, the many mucous pockets. The treatment ordinarily adopted is similar to a man playing a hose on an open door and hoping in that way to sweep out and cleanse the room. It is the same way when we hope to get the fluid in so as to cleanse the middle ear. We forget all the accessory cavities, the tympanic cellar and attic with its 3 or 4 rooms. These cases must be treated thoroughly or they will run an indefinite course, until the edema subsides and gravity helps the drainage, or until all pockets are destroyed. The medicaments rarely reach the tympanic cavity. It is only by intratympanic syringing that we can hope to cure these cases.

DR. J. F. BARNHILL, Indianapolis—The paper in the main has been one of correct principles. There are, however, a few things that perhaps the essayist, in the short time allotted to him, did not say that he might have mentioned if he had had more time. These cases at the first examination ought to be diagnosticated as perfectly as it lies in our power to do. After the thorough cleansing the Doctor has spoken about has taken place, there ought to be an attempt to determine if there be necrosed bone in any wall of the middle ear, and if any extensive area of this kind be found and definitely determined, it seems to me that the patient ought to be told about it, and if such a procedure as the Doctor has described be undertaken for six or eight weeks, he ought to be given to understand that in all probability a cure will not take place. But if he insists on such treatment, we may go on until he is satisfied that such a procedure will not produce a cure. When we find a dead ossicle or such extensive necrosis, we are absolutely wasting our time by anything short of removing the dead bone. As to the use of boric acid, I believe that boric acid or any powder has but very little and very limited use in otology. In the large majority of the cases that come to us we find perhaps an opening too small to get boric acid or any powder through, and if we can not get the powder into the middle ear itself, we do not get it where it will do good. If the whole of the drum membrane has been swept away and we can thoroughly cleanse the parts and use the boric acid, then, perhaps, we are justified in doing so. In many of these cases the use of any treatment by means of the syringe is, to my mind, as useless and perhaps silly as it would be for the gynecologist to try to cure a suppurating pus-tube by injecting water into the urethra. In very many of these cases, indeed, we find granulations blocking the entire way. The pus may get out, but the injected fluid can never get into the deeper parts in sufficient quantity to do any good. If we stop to analyze the specimens of bones we all have about us, we can see how unwise it is to go on with any procedure short of a radical operation. Understand that I do not advocate radical mastoid work immediately on seeing any case of chronic otitis media unless there is some immediate danger present. If we are able to watch the cases and operate when the danger comes, we are justified in waiting a little. But to wait for six months or a year in the face of a necrotic condition in the middle ear or in the antrum itself is, it seems to me, an otologic folly. I have no doubt Dr. Kuyk cures many cases by his method, just as many of us do, but there are many cases in which we can give the patient at the time of the first examination some knowledge of what he may expect from our treatment.

DR. D. A. KUYK—If, in closing the discussion, you will permit me, I will relate briefly the history of my case and some lessons I learned from it. For fifteen years I received various kinds of treatment for my chronic otorrhea or for the exeruciating pain caused by it, but without permanent benefit. Several advocated the mastoid operation, but this I declined. I then began to treat myself, studying my case as each symptom occurred. After experimenting with various methods I begun the dry treatment. After a time it occurred to me to aspirate the suppurating cavity, and this proved beneficial, but occasionally the violent otalgia recurred. I then began the use of compressed air through the eustachian catheter; this produced a feeling of comfort and relief hitherto unknown. I have by this method relieved many violent otalgias. The nitrate of silver solutions were conjointly used for three months, when the discharge and all odor disappeared. The compressed air was continued, and even now I use it once or twice a week, although it has been many years since the otorrhea ceased.

Some one asked if it was possible to remove all the pus from the floor and from the attic. I think it is with the compressed air; if the current used is strong enough the distension of the air into every crack and cranny as it rapidly passes through the ear either forces the pus out or evaporates it and thus removes material that water can not reach and that suction will not coax out.

The use of hydrogen dioxid has even greater disadvantages than has forced syringing. The continuous distension in a practically closed cavity will open those channels that are otherwise closed by the inflamed and thickened membranes, and thus the contents are forced into previously uninfected cavities. I have time and again had patients complain of severe pain following the instillation of hydrogen dioxid, caused, no doubt, by the distension of the inflamed mucous membrane.

As to the use of powders: if the perforation in the drum head is large enough and it is used with judgment no objection can be made to the use of a fine impalpable powder. The powder is lightly blown into the aural canal, the Siegel otoscope is then inserted and the air is forced into instead of exhausted from the ear. A few seconds' continuous pressure will suffice in most cases to force the air through the middle ear down into the eustachian tube and so into the throat.

Copy Your Prescriptions.—At the investigation of a death of supposedly criminal nature . . . the attempt was apparently made to shift the responsibility for the poisoning on the physician, who was asked whether any of his prescriptions contained arsenic or strychnin. A pertinent question was, "Have you the prescription which you wrote out for —— ——?" This will . . . call our attention to the desirability of taking . . . copies of all our prescriptions. Of course the necessity . . . occurs but seldom. When it does occur, however, it is very urgent. Usually the original can be obtained at the drug store. . . . Circumstances may easily be conceived in which it may have been tampered with by interested parties and thus rendered useless for any protective purpose.—*Colo. Med. Jour.*

THE TEETH AS A CAUSE OF PATHOLOGIC CONDITIONS IN THE THROAT, NOSE AND EAR.*

KATE W. BALDWIN, M.D.
PHILADELPHIA.

The little I have to say on this subject I shall put in as few words as possible. The best I can wish is that it may incite others to a more thorough investigation along the same lines.

I feel that it is our duty to call the general practitioner's attention to this subject, as so many of the cases first come under his care. We are all too prone to look on the teeth as so many bones not intimately connected with the body as a whole, which, although useful, can easily be gotten rid of and more or less good substitutes readily obtained. The deciduous teeth are neglected because others are sure to take their places, and how often do we find the six-year molars considered in the same list. The child's face is usually washed at least once a day. In how many cases is the use of the tooth brush unknown to the deciduous teeth and very sparingly used at any time of life. The heat and moisture of the mouth make a fine culture ground for bacteria, and examinations show that many kinds take advantage of the soil so well suited to their use. I wish especially to emphasize the relation between the teeth and the ears, as probably more frequent and more permanent injury results to the organ of hearing than to the nose, throat and accessory sinuses; then, too, we have so much more frequently had our attention called to the connection with sinusitis that we are constantly on the lookout in that direction. I shall cite but one case of empyema of the antrum of Highmore, and I give it because of the unusual symptoms and repeated failures to find the cause. Simple acute tonsillitis and peritonsillitis often result from pressure caused by difficult dentition, especially from the eruption of the wisdom teeth. That these end thus or become suppurative conditions depends on the presence and absence of bacteria in the mouth. Even one carious tooth is always a menace, and we frequently find saprodontia, which is an all too potent cause in the suppurative conditions of the ear, nose and throat. In this connection we ought also to consider the lymphatic glands.

There is no more important point in the specialist's examination than the careful inspection of every tooth erupted and the thoughtful consideration of those about to be; only in the case of the very young infant may we be excused. From habits formed we will usually go over the gums of the toothless infant and be frequently rewarded by finding some unsuspected condition. The fact that a patient is wearing a full upper and lower denture is no excuse. They should be removed and the condition of the gums considered. Only a few months ago I saw a patient who had worn a plate for years and the roots nearly of every tooth were in place, the crowns only having been removed (I was told that the dentist took them off with a chisel). Occasionally a root may be left and the gums completely closed in over it, as in the antrum case I shall mention. A cast of the jaw will quickly show to an experienced dentist the nonabsorption of the alveolus and suggest a left-over root as the probable cause. To have a good dental clinic in connection with every throat, nose and ear clinic is second only to proper instruments and good light. Have the two going simultaneously so that there need be no referring to another day, or even to another hour. If possible, secure a dentist whom you can interest from your own point of view. A ruptured drum membrane and hours of pain will often be saved your patient by the immediate lancing of the gums over an oncoming tooth or by the extraction of a deciduous tooth which is blocking a permanent one, the cleansing of a cavity and the placing of an antiseptic dressing or a filling, the relief of crowding, a little change in a regulating apparatus. To this local treatment always add a brisk cathartic.

At the Polyclinic Hospital, where I have the pleasure of being associated with Dr. Walter J. Freeman, the ear work is separate from the nose and throat, which to me seems undesirable. There is no dental clinic at the hospital, but for years Dr. Freeman has insisted on a careful examination of the teeth in each new case, and has had a graduate in dentistry as an assistant in the clinic. Do not leave the examination entirely to the dentist, but go over every tooth yourself. At another dispensary, where I have throat, nose and ear combined, we have for nearly three years had a dental clinic going on at the same time, and the dentist or undergraduate in medicine has been quite willing to co-operate in any experimental work I have suggested.

In considering the nerve supply, we had best call to mind that a portion of the parotid gland is in close relation with the lower and anterior wall of the external auditory canal and that the anterior wall is also in relation with the condyle of the lower jaw, so that firm closure of the mouth has a tendency to narrow the lumen of the meatus. The posterior and upper walls are formed by parts of the mastoid and squamous portion of the temporal bone. The external auditory meatus derives its nerve supply from branches of the auriculo-temporal, the auricularis magnus and the auricular branch of the vagus. The chief nerve supply to the external surface of the membrana tympani is the auriculo-temporal. According to Shappey, Arnold's nerve (the auricular branch of the vagus) supplies the lower portion of this surface of the membrane, and branches from the tympanic plexus the inner surface. The nerve supply of the tympanum is derived from numerous sources, several nerves entering the tympanic plexus. The nerve supply of the stapedius muscle is derived from a branch of the facial. The nerve supply of the tensor tympani muscle is derived through a branch from the otic ganglion from the motor root of the trifacial or fifth cranial nerve. The chorda tympani nerve, a branch of the facial nerve, may be involved in otitis media, and if so, may lead to abnormalities of the sense of taste on one side of the anterior part of the tongue. Acute otitis media is very frequently associated with the eruption of the teeth, and from reflected irritation produced by carious or even artificial teeth. This complication may be explained by the connection between nerves which supply the teeth and those supplying the tympanum. The great superficial petrosal nerve, which communicates with the tympanic plexus of nerves and through the vidian nerve, joins Meckel's ganglion, which is associated with the superior maxillary nerve. The nerves to the upper teeth are derived from the superior maxillary nerve. The small superficial petrosal nerve communicates with the tympanic plexus of nerves and joins the otic ganglion, which is associated with the inferior maxillary nerve. The inferior dental nerve which supplies the lower teeth is a branch of the inferior maxillary.

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Interesting reflexes along the auricular branch of the pneumogastric nerve referred to the parts supplied by the parent trunk are, coughing, faintness, nausea, vomiting and sneezing. In sneezing the irritation is reflected, probably along the auriculo-temporal nerve, to the gasserian ganglion or other center of the fifth nerve, and hence referred to the nose through branches of the superior maxillary. This may also account for the unilateral coryza. Earache associated with the upper teeth may be explained in the same manner. Earache associated with the lower teeth and diseases of the tongue are probably due to irritation reflected along the inferior dental nerve and lingual nerve, and referred to the ear through the auriculo-temporal, the other sensory branch of the inferior maxillary nerve.

In going over my records I find so many interesting cases that I can think of giving but a very few selected ones. In adults the third molars or wisdom teeth seem to cause a very large proportion of the trouble with the throat, also much earache.

CASE 1.—22 years old. Both ears had been aching for four days, toothache several weeks. Gums hard and greatly congested over third molars, other teeth in fine condition, gums were freely lanced, a cathartic given. The patient slept quietly all night and had no more trouble.

CASE 2.—Patient four years in getting the four wisdom teeth. During this time had no toothache, but frequent attacks of earache, which were always immediately relieved by a free incision of the gums.

CASE 3.—The eruption of the wisdom teeth extended over six years. About every three months patient had earache, no pain in teeth, earache always relieved by lancing the gums. Earache from impacted third molars, more frequently caused by the upper ones.

CASE 4.—Patient 22 years old. Had facial neuralgia and earache, not relieved by general treatment, referred to dentist. Roots of left superior first molar in position (the tooth was extracted six years previous), inferior second molar, pulp exposed. Roots were extracted, second molar treated and filled. Two weeks later patient reported having been perfectly free from both neuralgia and earache.

CASE 5.—Patient 33 years old. Had had frequent earaches for one year, severe for two days, had prevented sleep. Left external auditory canal and membrana tympani much congested, teeth in good condition, except lower second molar, which had no cavity, but a white chalky appearance. As it gave no trouble the patient refused to go to a dentist. Coal tar products controlled the pain, atropin and a laxative for three days relieved the other symptoms; 11 days later patient returned with practically the same symptoms, which were relieved in four days; 20 days later returned with earache, and the tooth had been growling. She had the tooth extracted and the ear caused no further annoyance.

CASE 6.—Boy 12 years old. For three weeks the left ear and all the upper teeth on that side have been aching, six months previous he had fractured the left central incisor, all the other teeth in good condition. The fractured one was abscissed, the pulp was a putrescent mass. The tooth was treated and all the symptoms relieved.

CASE 7.—Patient complained of deafness and tinnitus and some pain in the ears and that the teeth were in horrible condition. Teeth were in such a condition that the patient was referred to the dentist at once, 16 teeth were extracted and the others treated. Three weeks later reported being all right.

CASE 8.—Child 7 years old. Left ear had been aching for two weeks, no throat or nose trouble of any consequence. The left membrana tympani much congested, one point almost bleeding, teeth in very bad condition, deciduous molars blocking well advanced bicuspids, six-year molars gone to pulp. Teeth were extracted and the ear symptoms quickly cleared up, no pain after extraction.

CASE 9.—Child 1½ years old. Had had pain around left ear for two weeks with some swelling. There was tenderness over the mastoid and congestion of a small hematoma on the posterior wall just in front of the drum, upper and lower molars well advanced, gums greatly congested. The gums were freely lanced and the patient was to return the next day if not better; returned in three days and required no further treatment.

I have recorded seven cases of earache with no evident cause but exposed tooth pulp, all of which yielded promptly to treatment of the teeth; two cases of severe earache during the regulating of cuspid teeth due to tension on the regulating apparatus; many cases of pain in the ear during the filling of teeth, especially molars, this when there was no pain in the teeth themselves; one case of earache and unilateral coryza due to sensitive dentine with no exposure of the nerve; the earache and coryza were almost immediately relieved by filling of tooth and promptly returned on the removal of the filling, this being repeated several times with the same result; twelve cases due to deciduous teeth blocking advancing molars; eleven cases of tinnitus much relieved, if not entirely cured, by treatment of the teeth.

In about 62.5 per cent. of the cases of otitis the teeth were bad, and improvement was much more rapid when the teeth were cared for. A large number of these had passed through the first dentition, so that cases caused by that are not included. In the promiscuous nose and throat cases, where no special ear trouble was complained of at the time, a little more than 50 per cent. had bad teeth.

The only antrum case I wish to report is that of a physician who, when nine years old, had a badly-decayed six-year molar extracted, the roots being left; he was told that they were left and to return if they gave trouble; 19 years later there was pain and a "bone" was removed, followed by a free flow of pus; this was followed by a cessation of symptoms for years, when an attack of grippe in 1890 was followed by empyema of the antrum; this was repeated ten times in eleven years. Each attack was over in a reasonable length of time, but at intervals the patient was much troubled by a very offensive smell, which seemed to come from the nose; for this no local cause was found. During the last attack the antrum was entered under the inferior turbinal, according to Dr. Freeman's method, and the antrum repeatedly washed out, at no time getting much, if any pus, but the horrible odor continued at intervals. For weeks I never got it, when finally, as I was cleaning the tube preparatory to washing, there was an escape of very offensive gas, and it was quite evident that it came from the antrum through the tube; the teeth were again carefully gone over and a cast of the mouth made which showed a lack of absorption of the alveolus. With cutting forceps the alveolus was gone through, and the root extracted, a probe passed freely into the antrum and the opening was enlarged to admit passage of a small syringe and an obturator fitted. Through this opening the antrum was repeatedly washed, but as there was no return of the symptoms, the opening was allowed to close and some weeks later the nasal tube was removed. Up to the present time there has been no return of trouble.

DISCUSSION.

DR. J. C. BECK, Chicago—The Doctor has outlined a number of affections that might follow diseases of the teeth, but the main impression I got from the paper was that there was a great deal of incision of the gum done for the relief of earache. All of us know there is a great deal of earache following disease of the teeth, exposed cavities exposing the nerves and causing pain in the ear when there is nothing pathologic in the ear. But when you speak of incising so many cases for the relief of earache, it is not clear to me that the incision of the gum is going to relieve any suppurative condition in the ear. Beside, incision of the gums has been largely discontinued, because it is not an easy matter to incise the gums, especially of infants, for infection is likely to follow. I would like to have heard more about the condition of the ears and whether suppuration followed in these cases even if the gums were in-

cised. One condition that follows the affection of the teeth is affection of the salivary glands, particularly that condition known as ranula. From caries of the teeth we very frequently find affection of the salivary duct, and then salivary concretions form on top of an infected focus in the glands. One case comes to my mind in which there was reported an abscess of the nose following an affection of a tooth. It was first treated as a simple abscess, incised and drained, but cure did not follow, and finally a secondary operation was done and a cyst was found which was thoroughly eradicated and the case recovered perfectly. This case is reported by Killian.

DR. ROBERT C. MYLES, New York City—This subject is a broad one and has been too much neglected. There are other symptoms, especially those of tracheitis and bronchitis, due to pyorrhea alveolaris, and when the teeth and gums are treated the condition immediately becomes better. I have seen patients who had been treated for months without relief before the proper care was given to the teeth. I must say that dentists do not help us enough in this regard. It has been my experience to refer such cases to the dentist, and the patients returned with the statement that but little could be done for them, and they were usually instructed to use some simple mouth wash. The use of peroxid of hydrogen, especially when followed by an application of alcohol, of which many dentists do not approve, at times I have found most advantageous. It is not practicable to remove all the teeth for pyorrhea alveolaris. As to empyema of the antrum of Highmore, it is very frequently caused by filling a dead tooth, but I do not think dentists should be held responsible for an empyema caused by this procedure. The patients should accept the responsibility. There are bacteria often present beyond and near the root end which the dentist can not get out and the patient must accept the risk when the tooth is filled. The dentist should not be blamed. Many of my patients have been relieved by careful inspection and care of the teeth.

DR. H. M. CRYER, Philadelphia—I would like to answer Dr. Myles especially, for I did not hear all the paper read by Dr. Baldwin. A dentist who would fill a tooth and leave decayed or infectious matter in the tooth or about the root deserves censure, and he would be condemned by the dental profession. We know that the teeth do penetrate nearly or entirely through the floor of the antrum. If those teeth become diseased and the pulp becomes devitalized we may have disease of the antrum, the frontal sinus or the ethmoidal cells, and the dentist who would be responsible for such a result ought to be condemned most thoroughly. If he is unable to get the parts in healthy condition then he should extract the tooth and treat the parts in a surgical manner, even if the disease extends through the antrum into the ethmoidal cells or the frontal sinus.

The essayist spoke of lancing the gums for difficult or retarded eruption of the deciduous teeth. The principal objections against lancing or scarifying the gums is that it produces soreness and cicatricial tissue and often does no good. This fault lies in the operation; the incision must be made deeper than a simple scarification, the object being to liberate the tooth, even if the gum tissue overlying it has to be removed. It is not the pressure of the crown of the tooth against the gum tissue that causes the trouble, it is rather that the ends of the roots that are being formed come in contact with branches of the fifth cranial nerve, when in the lower jaw, with the inferior dental branch. The hardened gum tissue holds the growing roots on the nerve, causing direct pain, and through reflex action will cause various pathologic conditions, such as trouble in the ear, disturbance along the alimentary canal, convulsions, etc. By judicious lancing or removal of gum tissue the child will be relieved, but, of course, if the child has an abscess of the ear it will not be cured by lancing, but will have to be treated surgically as any abscess. The impacted tooth may have been an original factor in causing the abscess.

DR. KATE W. BALDWIN—In answer to the first speaker, I have never had a case of sepsis follow lancing of the gums, and cases of acute otitis have usually been relieved. Of course, if there is a pre-existing suppurative condition it is not cured by treatment of the teeth. But suppurative conditions are relieved much more rapidly if the teeth are put and kept in good condition. When the teeth are in bad condition I am prone to order an antiseptic mouth wash before any work is done on them, which is also to be used after the work is done. Scarifying, I agree with the Doctor, is of no use. You must go through whatever tissue overlies the tooth and give it a chance to advance. I do not mean to say that it will cure a case of suppurative otitis, but it will stop an acute otitis very promptly in many cases, and the suppurative cases will get well more quickly if the teeth are put and kept in good condition.

NOTES ON THE DETECTION AND QUANTITATIVE DETERMINATION OF SUGAR IN URINE.*

A. B. LYONS, M.D.
DETROIT.

The detection and determination of sugar in urine is an old subject, yet one of perennial interest to the practicing physician, and one which, from its difficulty as well as from its importance, invites further research. I propose, in this paper, to treat mainly of some of the newer procedures that have been proposed in this line.

The tests for sugar that have been most used heretofore are reduction tests. They give an indication simply that there is something present which is greedy for oxygen. This is a characteristic which sugar possesses in a high degree, but which it shares with a multitude of organic substances, of which, unfortunately, some are normally present in the urine. If we could find some reagent which would yield oxygen to sugar, but would refuse to part with it to uric acid or creatinin or any other of the long list of organic compounds found constantly or frequently in the urine, we should be able to tell positively after applying the test whether or not sugar was present. As it is, we are to-day not quite certain that sugar in a small proportion is not a normal constituent of the urine.

Several new reduction tests for sugar have been proposed within the past few years. Of these perhaps the most important is methylene blue. When a solution containing glucose is colored with methylene blue, made alkaline with liquor potassæ and heated to boiling, it immediately loses color. If the tube containing the solution is shaken so that the oxygen of the air is brought in contact with the decolorized fluid, unless sugar is still present in large proportion the blue color returns. In case of a solution containing 1 per cent. of glucose, the color may thus be discharged and restored several times in succession before the glucose is completely oxidized.

The test is far more delicate than the familiar indigo carmine test, which differs from this in that the color changes first to lavender, then to red, and finally to an amber or straw color. If only sufficient methylene blue is used to give to the solution a distinct tint, it is possible to detect sugar when the proportion is less than 0.02 per cent. (one-twelfth grain to the fluid ounce). The test, however, can be of little practical value in urine analysis, since normal urine decolorizes the reagent. We may indeed assure ourselves of the absence of any considerable quantity of sugar by using in

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the test a single drop, or at most two drops, of the urine. If decoloration does not take place there can not be present as much as two grains of sugar to the fluid ounce. It is possible to make a methylene blue solution of such strength that one cubic centimeter of it will require for decoloration exactly 0.1 milligram of glucose, and so ascertain the maximum proportion of sugar that might be present, but there are better ways to make such an approximate quantitative determination of sugar.

Litmus blue serves as a reduction test for sugar, but is much inferior to indigo carmine, the test being far less delicate.

The ferricyanid of potassium (red prussiate of potash) is an exceedingly sensitive reduction test for glucose. The solution of this salt is of a rich gold yellow color. When made alkaline with liquor potassæ and boiled with a solution of glucose, its color is discharged, the ferricyanid being reduced to ferrocyanid of potassium. If the test be made in a colored solution, or by artificial light, which does not bring out well the yellow color of the reagent, it is still easy to ascertain whether or not this change has taken place, since ferric salts yield a blue precipitate with ferrocyanids, but not with ferricyanids. The solution of ferricyanid must be freshly prepared, and the ferric chlorid must be free from ferrous salt. To make sure of this latter condition, test a little of the ferricyanid solution with a drop or two of the ferric chlorid; the color of the solution will be changed to a deep green, but it will remain transparent, and on diluting will be seen to be perfectly free from a blue precipitate. The test for sugar is to be made, therefore, in the following manner: Put into a test tube 30 minims of a 2 per cent. solution of potassium ferricyanid, add 5 drops of liquor potassæ and a drop or two of the solution suspected to contain glucose. Boil thirty seconds, then add 5 drops of dilute hydrochloric acid or sufficient to render the mixture acid and a drop or two of a 5 per cent. solution of ferric chlorid. A blue precipitate will be thrown down at once if glucose is present. The difficulty with the test is that it is too delicate, i. e., reduction is brought about by substances normally present in the urine, so that the test can not be recommended in urine analysis.

A better reduction test than this is safranin, a red coloring agent. This is used in the form of a solution 1:1000, which is made alkaline with a solution of soda or of potassa and boiled after addition of the solution to be tested for sugar. If sugar is present the red color is changed to a pale amber. By shaking with air the color may be restored, as in the case of methylene blue. The reduction is not as rapidly effected as it is with methylene blue, and the test is not capable of showing such very minute quantities of sugar, but, on the other hand, the constituents of normal urine have comparatively little decolorizing effect on safranin. If 60 minims of the safranin solution are used for the test, with 10 minims of liquor sodæ, 10 minims of a normal urine will not effect decolorization, while the same quantity of a urine containing 0.25 per cent. of sugar will lose its color completely.

In applying heat, be careful not to allow the mixture to boil actively, for oxygen is readily reabsorbed from the air, tending to restore the color. I have not myself made practical use of this test, although I have verified experimentally the general facts stated above, and I incline to think favorably of the test as confirmatory of the indications of other inconclusive tests. The general principle should, however, be laid down that a positive result from a reduction test does not greatly strengthen a conclusion drawn from another reduction test; a negative result in such a case has much greater weight.

After all, we must come back to copper and bismuth as practically the best reduction tests we have. Preference is given by many to the latter on the ground that bismuth is not reduced as often as copper by other constituents of the urine. This advantage is partly compensated by the fact that certain compounds of sulphur part with that element to form with bismuth a black compound which may be mistaken for reduced bismuth. Bismuth is now used oftenest probably in the form of Nylander's reagent, analogous to Fehling's copper solution.

The copper test is, after all, that which is practically most used, and is not likely to be abandoned by those who have learned how to use it. Fehling's solution is much too strong to serve as a delicate test for traces of sugar. It should be diluted with distilled water so as to be of a rather pale-blue color. Sometimes when so diluted it will need to have added to it a little more liquor potassæ—a drop or two only; a large excess of alkali is not desirable. A fluid dram of the diluted reagent is heated to boiling in a test tube and found to stand boiling without reduction. A drop of the urine is then added and the heat maintained 36 to 60 seconds. If much sugar is present the characteristic deposit of cuprous oxid is thrown down. If this does not appear, and if the copper solution remains unchanged in color, three or four drops more of urine are added, and heat applied during another minute. Should the result still be negative, a fresh portion of the test solution should be taken, about 15 minims of the urine added and the whole boiled one minute. If no deposit of cuprous oxid appears, sugar is present only in traces or else there is something in the urine that interferes with the reaction. Possibly there may be an overwhelming amount of sugar, which would, however, be indicated by disappearance of the blue color and development of the characteristic color and odor of Moore's reaction.

It is time to change the tactics. Begin now by boiling a fluid dram of the urine in a test tube, making sure that it is acid. If a precipitate of albumin appear remove this by filtration, add 20 minims of the solution of copper sulphate used for preparing Fehling's solution and again boil. When partially cool add 15 minims of a saturated solution of sodium acetate, which may be prepared extemporaneously by adding to acetic acid sufficient sodium bicarbonate to nearly neutralize it, leaving the reaction, however, distinctly acid towards litmus paper. Filter, and to the filtrate, which is now free from uric acid, xanthin and hypoxanthin, as well as from phosphates, add 20 minims of the alkaline tartrate mixture used for preparing Fehling's solution, and boil one minute. In most cases the presence of sugar will be made evident by the appearance immediately, or on cooling, of the usual deposit of cuprous oxid.

Creatinin, however, is still present and may prove a disturbing factor. It has a reducing action, but has also the property of preventing the immediate deposit of cuprous oxid, and is said to give to the deposit when it does take place, a yellow rather than a red color. In case there is still doubt, therefore, about the presence of sugar, the creatinin must be removed, and this is readily done by the method of G. S. Johnson, as follows:

Add to two fluid ounces of the urine four fluid drams of a saturated aqueous solution of sodium acetate. Boil the mixture five minutes and filter hot; wash the precipitate twice with hot water. Add to filtrate and washings 30 grains of zinc dust and boil 10 minutes to remove excess of mercury. Filter, wash the residue well with water and add to filtrate and washings enough water of ammonia to make exactly four fluid drams. This solution may be used now to determine the quantity of sugar by means of Pavy's copper solution. Since normal urine, even after removal thus of creatinin, possesses some reducing power, the usual deduction of one-half grain to the fluid ounce may be safely made in this determination.

One or two modifications of the copper test deserve mention. In place of Rochelle salt an alkaline citrate may be used with less danger that it may itself cause reduction of copper. Sodium salicylate also may be used, and the test may be made conveniently portable by mixing sodium salicylate with sodium carbonate, and preparing the test solution extemporaneously by putting into a fluid dram of water a little copper sulphate (¼ grain) and adding two grains of the mixture. A deep green solution will result, which on boiling with a few drops of diabetic urine will throw down the characteristic deposit of cuprous oxid.

The copper test is a surprisingly delicate one. By its means the presence of sugar is revealed in absence of disturbing reactions, in two drops of a solution containing one grain to the fluid ounce or in 15 minims of a solution containing 0.02 per cent. When there is uncertainty whether a deposit has been produced or not, the following expedient may be resorted to. After boiling the copper solution with the suspected urine, neutralize as exactly as possible with dilute hydrochloric acid, add a little neutral sodium acetate and a drop or two of a 5 per cent. solution of potassium iodid. A white precipitate of cuprous iodid will be thrown down immediately if there has been any reduction of copper.

An important modification of the method for quantitative determination of sugar by a copper solution is that of Gerrard, known as the cyano-cupric test. Ten c.c. of Fehling's solution are diluted with 40 c.c. of water and heated to boiling. A 5 per cent. solution of potassium cyanid is then added gradually until the blue color is nearly discharged, then drop by drop until the color wholly disappears. Any excess of the cyanid must be avoided. An additional 10 c.c. of Fehling's solution is then added, producing a deep blue solution, which does not now throw down cuprous oxid when boiled with a sugar solution, but suffers reduction with gradual fading of color, as in the case of Pavy's solution.

The determination of sugar is made exactly as with Pavy's solution, the saccharine solution being added from a burette until the color just disappears, the quantity of sugar indicated being the same as if 10 c.c. of the ordinary Fehling's solution had been used. The advantages claimed for this solution are that there is no ammonia to be driven off in boiling, and that oxidation of the solution does not take place so easily as in the case of the ammoniacal solution.

The test for sugar to which I am especially partial is picric acid. It is not new, but the manner in which I use it is of my own devising and is as follows: I prepare in the first place a standard color by dissolving 5 grams of potassium bichromate in 50 c.c. of water, adding 25 c.c. of diluted sulphuric acid, U. S. P., and making up with water to 100 c.c. I put into a test tube exactly 30 minims of the urine together with 15 minims of liquor potassæ and a picric acid reagent tablet and boil one minute. I then add water gradually until the tint of the diluted solution corresponds exactly with that of my standard solution, when test tubes are filled to the depth of 4 cm. with the two fluids and they are viewed from above. I measure the diluted solution, deduct 20 c.c. for "normal sugar," and reckon for each cubic centimeter of the remainder one three-hundredth of 1 per cent. of sugar. In the urine of persons who have taken certain cathartic medicines, such as rhubarb or senna, it may be found that addition of liquor potassæ alone will develop a deep color. In such case mix 30 minims of the urine with 15 minims of liquor potassæ and dilute until the color corresponds as nearly as possible with that of the standard solution, measure the diluted fluid and deduct this measure in addition to the 5 fluid drams above.

There is certainly no quicker way to make an approximate estimation of the quantity of sugar present, and perhaps no way more likely to give results that may be depended on, although it is best to confirm them by an independent method, such as that by fermentation.

The tests hitherto described are indirect, depending on reactions not peculiar to sugar. We have, however, now a reagent which detects sugar by forming with it a definite chemical compound, and which, therefore, gives us greater certainty of our results than any indirect test can. The reagent is phenylhydrazin, the compound formed phenylglucosazone, called for short osazone. It is necessary only to heat the solution suspected to contain sugar with a little of the reagent and some acetic acid to bring about the reaction. The osazone is a yellow substance which crystallizes very readily and in an easily recognized form. The crystals which form in an aqueous solution occur generally in tufts of delicate needles, often nearly spherical or in a sort of dumbbell form, but also frequently in a double sheaf or in groups consisting of two bundles of needles crossing one another at an acute angle, like the letter X. These crystals are almost insoluble in water. They dissolve sparingly in ether, readily in hot alcohol, these solutions depositing them again in crystalline form on evaporation.

To apply the test to diabetic urine the following method, which is essentially that of Neuman, is to be recommended. Place in a test tube 1 fl. dr. (4 c.c.) of the urine, add about 2 gr. (0.12 gm.) of phenylhydrazin hydrochlorid (or two drops of phenylhydrazin itself), add 20 m. (1.3 c.c.) of a reagent prepared by dissolving in 1 fl. oz. (30 c.c.) of acetic acid (40 per cent.) and 60 gr. (4 gm.) of sodium carbonate. Heat the mixture to boiling, pour it into a porcelain capsule and evaporate on a water bath to one-half its volume and allow to cool. If the urine contains as much as one grain of sugar to the fluid ounce a yellow- or rust-colored deposit will form, which will generally show under the microscope crystals of osazone.

I find that the test is more likely to succeed if the urine is first treated in the following manner: To 1 fl. oz. (30 c.c.) of the urine add 1 fl. dr. (8 c.c.) of a 10 per cent. solution of barium chlorid, together with 10 m. (0.65 c.c.) of liquor potassæ. Filter through a double filter, add to the filtrate 10 gr. (0.65 gm.) of sodium carbonate, heat to boiling and filter once more. The filtrate is now free from urates and phosphates and,

therefore, is in a much better condition for the test. To 1 fl. dr. (4 c.c.) of the filtrate add 2 gr. (0.13 gm.) of phenylhydrazin hydrochlorid and 15 m. (1 c.c.) of acetic acid, heat to boiling, transfer to a capsule and evaporate as above.

In case the deposit is not distinctly crystalline, I pour the cold mixture containing it into a test tube, add 30 m. (2 c.c.) of ether, shake together a moment and pour off the ether into a beaker, in which I allow it to evaporate at a very gentle heat. Crystals may or may not form. I expect to find the greater part of the osazone remaining in the aqueous fluid, the ether having removed uncrystallizable impurities. I add to the aqueous fluid an equal volume of alcohol and heat to boiling. When cool, I add 1 fl. dr. (4 c.c.) or more of ether, shake a few moments and allow the ether to separate. This ether I decant into a beaker and evaporate off at a gentle heat, when fine crystals of osazone will almost always be formed, particularly on the sides of the beaker.

Another method of making the test—that of Kowarsky—generally succeeds well, particularly when the urine has been treated as above described with barium chlorid and sodium carbonate. To 1 fl. dr. (4 c.c.) of the urine add 15 m. (1 c.c.) of glacial acetic acid 2 gr. (0.13 gm.) of phenylhydrazin hydrochlorid and 20 or 30 m. (1.5 or 2 c.c.) of a saturated solution of common salt. Boil the mixture three minutes and allow to cool slowly. If sugar is present in the proportion of one grain to the fluid ounce crystals of osazone will separate on cooling, or within an hour or two.

The phenylhydrazin test may fail to detect minute quantities of sugar in the urine, but it is subject to few fallacies. The urine does contain sometimes glycuronic acid which forms with the reagent a crystalline compound closely resembling osazone. The urine of persons who have taken thymol, menthol or eucalyptol contains compounds of glycuronic acid, and, therefore, responds to this test. We are compelled, therefore, after all, in uncertain cases, to fall back on the fermentation test. Now that compressed yeast is to be found in every grocery store there is no difficulty in applying the test.

The fermentation test has always been recognized to be the simplest and most nearly infallible test we have as yet for sugar in the urine. It may fail from the accidental presence in the fluid of some antizymotic agent. Some preservative may even have been added intentionally, but rarely, if ever, without the knowledge of the person who is to make the examination. The method of making the test is familiar to you all. The fact of fermentation, as you know, is evidenced by the escape of carbon dioxid, and by a change in the specific gravity of the urine. Many of you are accustomed to determine the quantity of sugar in a specimen by taking its specific gravity before and after fermentation, and the method is at once simple and trustworthy, if carried out with due care. You are more accustomed, however, to make the test merely as a qualitative one, conducting the fermentation in such a way that any carbon dioxid evolved may be collected.

Some of you have used "saccharometers," which indicate the quantity of sugar present by the volume of gas evolved. The principle of such an instrument is sound. A grain of sugar will yield by fermentation a definite volume of carbon dioxid—a little more than half a fluid ounce measured at 75° F. The fact that has been ignored in all these saccharometers is that carbon dioxid is soluble in water, so that until the fermenting fluid is quite saturated, no gas will be given off. A fluid which contains less than about two grains and a half of sugar to the fluid ounce will, therefore, apparently evolve no gas during fermentation. The gas is there, but it is held in solution.

An obvious expedient to overcome this difficulty would be to saturate the fluid to be fermented with carbon dioxid at the outset. After adding the yeast, a certain quantity of sodium bicarbonate and tartaric acid could be added, the latter in slight excess, and the mixture allowed to stand a few minutes so that any excess of carbon dioxid might escape. A better plan still would be to add to the fluid a quantity of cane sugar, just sufficient to produce in its fermentation gas enough to saturate it completely. The free gas collected under such circumstances would be a substantially accurate measure of the quantity of sugar present.

Another difficulty with most of the saccharometers heretofore used is that the gas as it collects displaces a corresponding quantity of the fermenting fluid, so that their quantitative indications are wholly worthless.

An instrument called the saccharoscope is constructed on scientific principles and enables the physician to determine with a fair degree of accuracy by fermentation the quantity of sugar in a specimen of urine. The instrument has two chambers, in one of which the fermentation is conducted, while in the other the carbon dioxid evolved is collected. The second chamber is filled with water at the beginning of the experiment, but the water is covered with a layer of paraffin oil so that the gas may not be absorbed by it.

A subject I can do no more than touch on at this time is the fallacies that may arise from remedies a patient is using. An exhaustive paper on this subject was presented at the last meeting of the American Pharmaceutical Association by Mr. Frederick T. Gordon, Pharmacist U. S. N. A very large number of the synthetic remedies now in use have a reducing action so that their presence in the urine places in doubt the result of reduction tests for sugar. It is only such remedies, however, as are given in comparatively large doses—a gram or two at least in twenty-four hours—particularly those given in such doses several days in succession, that are liable to be eliminated in the urine in quantities sufficient to lead to the erroneous conclusion that sugar is present. The most important of these are the antipyretic remedies now so frequently prescribed—or used without prescription—acetanilid, antipyrin, phenacetin and salol. To these may be added certain aldehyds or kindred compounds, bromal, chloral, acetal and a number of synthetics more or less frequently prescribed as aspirin, europhen, hydroquinone, urotropin, the latter not often given in quantities sufficient to lead to such fallacies.

The picric acid test is open to fallacies, especially from the use of cathartics containing emodin—senna, rhubarb, buckthorn and cascara sagrada; this has already been pointed out.

The phenylhydrazin test is not affected by the antipyretics or by other reducing agents, but may give a false indication of sugar after the free use of eucalyptol, menthol or thymol. Albumin interferes with this as with most of the sugar tests.

It has happened sometimes that formaldehyd has been added to urine to preserve it without considering that this is not only a powerful reducing agent, but that it interferes with fermentation. Formaldehyd has further the curious property of preventing the precipi-

tation of uric acid by acids, and at the same time of causing precipitation of urea by hydrochloric acid.

The most important of the conclusions reached by Mr. Gordon from his numerous experiments and observations are:

1. The main sources of error in testing urine for sugar will come from the continued administration of many of the synthetics at short intervals in the usual doses; single or widely separated doses of most of these have little effect, as the dilution is too great in the urine.

2. By allowing sufficient time for the drugs to be eliminated from the system, usually only a few hours when not taken long enough to saturate the system, the error their presence in the urine causes can be reduced to a minimum. In cases of doubtful sugar reactions, stop the treatment for at least twenty-four hours before collecting samples of urine.

3. When drugs have been administered for some time, the morning urine will contain the greatest amount of their derivatives.

RECAPITULATION.

To recapitulate briefly the more important points made in this paper:

1. The most convenient preliminary test to apply for sugar in the urine is picric acid, which gives in two minutes a quantitative determination which requires no elaborate apparatus and is generally approximately correct, subject to confirmation by other tests.

2. Of the newer reduction tests, methylene blue is perhaps the only one that will especially interest the physician, and is an exceedingly sensitive test.

3. The copper test yields to none in sensitiveness, and, although more open to fallacies than the bismuth test, need not be abandoned altogether by those who have learned to use it.

4. The phenylhydrazin test is easily made, is more nearly conclusive than any other chemical test, and should always be applied in confirmation of the conclusions drawn from other tests. In inexperienced hands it may fail to reveal sugar when present in a proportion of less than one-half of 1 per cent.

5. When small quantities of sugar are to be determined quantitatively by means of a volumetric copper solution, creatinin should first be removed from the urine by the method of G. Stillingfleet Johnson.

6. By aid of a suitable apparatus, quantitative determination of sugar can be made by fermentation even when the proportion is quite low. The ordinary fermentation saccharometers can not, however, accomplish this, their quantitative results being almost of no value.

I have made no mention of the use of the polariscope, which in its improved form is of great value, particularly where the physician wishes to make daily examinations of the urine of a patient. The instruments are so costly that they seldom form a part of the equipment of a physician's laboratory.

DISCUSSION.

DR. HEINRICH STERN, New York—I think Dr. Lyons laid too much stress on the phenylhydrazin test. In my estimation this is a much overrated test. I have employed the various modifications of the test, those devised by Jaksch, Jolles, Ultzmann and Havelburg. Normal urine treated with phenylhydrazin may occasionally yield crystals which to all appearances are identical to those of phenylglucosazone. The outside appearance of the crystals is no positive proof of their true character. If the phenylhydrazin test is to be depended on, the melting point of the crystals must be determined. Glycuronic and oxalic acids, carbamid, pentoses, etc., combine with phenylhydrazin. The phenylosazone crystals of glycuronic acid or its combinations are exactly analogous to those of phenylglucosazone. The melting point of the glycuronic acid compound is between 114 and 115 C., that of phenylglucosazone in its impure state between 173 and 194, and when pure between 204 and 205 C. The fermentation apparatus exhibited by Dr. Lyons is undoubtedly an improvement over Einhorn's and similar apparatus, as it prevents absorption of carbon dioxid. I am, however, of the opinion that my fermentation apparatus, the urino-glucosometer, possesses advantages over all the other urine fermentation devices. That apparatus is based on the method originally brought forward by Roberts. The apparatus can also be utilized for ascertaining the specific gravity of the urine. The great difference between this and all other fermentation apparatus is that with the aid of the Stern device the amount of urinary glucose may be definitely determined while the other apparatus, at their best, only permit an estimation of the amount of grape-sugar contained in the urine. By placing my apparatus or the specially-designed fermentation tubes into a sandbath or into an incubator in which the temperature is kept at a constant temperature of from 34 to 38 C. complete fermentation of the contents of the tubes may be obtained in from 6 to 8 hours.

DR. A. B. LYONS, Detroit—My paper referred to glycuronic acid and its liability to interfere with the phenylhydrazin test, but I omitted that part in condensing my remarks. I particularly insisted, however, that the phenylhydrazin test must be supported by others, and especially by the fermentation test. There is one other test that I had intended to mention, although I have had no personal experience with it—in fact, I have not been able to procure the reagent, although I sent to a prominent dealer in chemicals in New York for it. The reagent has a polysyllabic name, ortho-nitrophenyl propiolic acid, called for short nitropropiol. It is now to be had under the latter name in the form of tablets for use in urine testing. The presence of glucose is indicated by it by the development of a blue color, which is best made evident by adding a little chloroform, which is colored blue by it. The test is said to be a delicate one. Glycuronic acid also produces the blue color, so that the indication of this test also should be confirmed by fermentation.

THE PRESENT AND FUTURE THERAPY OF ORTHOPEDIC SURGERY.*

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The development of orthopedic surgery, as a specialty, has been attended by some incidents and circumstances which I think invite especial comment, for, more perhaps than any other specialty in medicine, its evolution has been influenced by a few men whose personality and whose acknowledged ability, especially in a mechanical way, have contributed to the present successful status. The influence of these pioneers, supplemented by the modern developments of operative surgery, has been to establish in the minds of many some doubt as to what orthopedic surgery really is.

Modern orthopedic surgery in this country may be said to date from the time of Dr. Henry J. Bigelow of Boston, who wrote a "Manual of Orthopedic Surgery," which obtained the Boylston prize for 1844. The essay was on this subject: "In what cases, and to what extent, is the division of muscles, tendons and others parts, proper for the relief of deformity or lameness?" The works of Guerin, Bonnet, Velpau, Phillips, Duval, Little and others were utilized by Bigelow in his essay, and he incorporates strabismus and stammering in his work, with club-foot, torticollis, ankylosis of the knee, flexion of the hip-joint, lateral curvature of the spine, contracted hands and fingers, congenital dislocation, re-

* Read before the American Therapeutic Association, in New York City.

cent and chronic dislocations and locked jaw. This is submitted with a preface, a part of which reads as follows: "It is believed that the general intention of the committee will be fulfilled by an attempt to cover the ground now occupied by orthopedic surgery."

It will be noticed that no mention is made in this essay of Pott's disease of the spine, hip-joint disease or of any other of the deformities due to chronic or progressive diseases of the articulations, all of which may result in deformity or lameness. Nor was it until 1855 that these diseases and deformities of the joints attracted especial attention. At that time Dr. Henry G. Davis introduced his famous traction splint for the treatment of hip-joint disease and his equally efficient antero-posterior support for Pott's disease of the spine, and the pathologic conditions underlying these diseases began to be appreciated if they were not fully understood, although Dr. Davis distinctly stated that they were tuberculous. Davis' apparatus was quickly adopted, amplified and improved by his contemporaries, and Bauer, Taylor, Sayre and Knight soon after, by their strong personalities and marked abilities, established what has since become known as "The American School of Orthopedic Surgery."

Thus it is that the subcutaneous tenotomy of Stromeyer (1830), supplemented by Little of London, Detmold of New York, and others in the same field, and the later efforts and successes of the pioneer American orthopedic surgeons, made a legitimate school of orthopedic surgery which has been augmented and amplified by numerous eminent men, whose work has been greatly to the credit of medicine and surgery.

In the meantime an important advance in the treatment of deformities occurred with the introduction of osteotomy and osteoclasis and the plaster-of-paris bandage. The treatment of knock-knee, bow-leg and other osseous deformities were thus brought under the classification of acute fractures; in short, under the care of the general surgeon, who became independent of the orthopedic surgeon and the use of specially constructed apparatus in the treatment of these conditions. The application of the gypsum bandage was taught in the medical colleges as much so as other conventional splints, and the general surgeon found himself equipped to do much work that formerly fell to the orthopedic surgeon. Orthopedic surgery, therefore, found itself confronted by a serious question, a question I tried to solve in an address[1] before the orthopedic section of the Berlin International Congress in 1890, in which I said: "There would be no true orthopedic surgery to-day if mechanico-therapeutics had not been studied long and patiently by a comparatively small body of intelligent surgeons." This statement is just as true to-day as it was twelve years ago, and it revives the question as to what really constitutes orthopedic surgery, and what should be its future status as a specialty, especially from a therapeutic standpoint.

For the purpose of discussing the future therapy of orthopedic surgery let us dismiss from our minds the various non-inflammatory long-bone deformities, such as knock-knee, bow-leg, etc., which however much the orthopedist may claim them, will be operated on and successfully treated by the general surgeon. They are conditions with which, after a certain age, the general surgeon can easily cope and their future therapy is not so liable to undergo marked changes as that for other deformities to be considered later. A considerable number of these long-bone deformities, however, will always be treated by mechanical means, and the operative measures for these deformities are not gaining in popularity.

In an address[2] before the Board of Trustees of the New York Orthopedic Dispensary and Hospital, delivered in 1897, I made the following assertion: "It will be along the line of conservatism that orthopedic surgery will be developed, not on the lines of operative surgery."

Let us study this aspect of the subject and see where it leads. As a fundamental principle let us quote as general propositions the following:

1. "The treatment of chronic deformities would be emasculated if mechanical treatment was omitted. Indeed, under these circumstances there would be only operative surgery left."

2. "The operative part of orthopedic surgery becomes the simple but necessary adjunct of the mechanical work."

These simple propositions underly, I think, the present and future therapy of orthopedic surgery.

No one who is familiar with the present mechanical aids of the orthopedic surgeon can avoid the conclusion that they are still in their infancy. The apparatus now in use will be thought very inefficient by the orthopedic surgeon fifty or one hundred years hence. So also with many of our present methods. They will all be revised, amplified and improved or perhaps discarded for others, based on a clearer conception of the various conditions involved. The therapy of the orthopedic surgery of the present day represents an undeveloped, but necessary, specialty. It represents, especially from a mechanical standpoint, inspiration, rather than the result of study and research. It represents the clinician rather than the pathologist. It represents intuition rather than inductive reasoning. Davis struck an important principle when he imitated Nature and made an apparatus do what the human hand, guided by the human intellect, accomplished. Taylor, a born mechanician, would sit down, scissors in hand, and cut out a pasteboard pattern of an apparatus for club-foot. Sayre could apply with his deft hands a gypsum splint in a way that I have never seen equaled. Knight would intuitively devise apparatus for a given deformity and make a creditable drawing of it at a moment's notice. In stating these characteristics of these honored men I have no thought of detracting from their other eminent and recognized abilities. Still, I never knew any of these pioneers in orthopedic surgery to work out a problem in the application of artificial mechanics to a human deformity on what might be called a scientific basis. It seems foreign to their nature, and perhaps to their training, to imagine any one of these men defining a deformity with a scientific formula, such, for instance, as is used by the ophthalmologists of the present day. But this scientific method must come before orthopedic surgery can claim a safe position among the specialties of surgery, and this method will be used to describe certain deformities, not only for permanent record, but to meet the intelligent comprehension of the profession.

No one doubts the potent influence of these men in founding a distinct branch of surgical inquiry; and no one can take exception to their abilities or to their well-earned renown. They have given us a point of common interest around which we may all gather, and they have pointed out the way to grand results. But the problems they have left unsolved only stimulate inves-

1. What Is Orthopedic Surgery? Transactions of the Tenth International Congress, 1890.

2. The Operative Side of Orthopedic Surgery. N. Y. Medical Record, Dec. 18, 1897.

tigation and study among their humble followers, and it seems almost useless to say that these investigations and studies will not be so much with the knife, chisel and saw, as in the almost unexplored fields of mechanical therapy, and in pathologic exploration.

The future therapy of orthopedic surgery must answer, among many other unsolved problems, the following, viz.: a more scientific way to make traction in hip-joint disease; the successful relief and cure of lateral curvature of the spine; the prevention of deformity in Pott's disease, especially in the dreaded respiratory region; the prevention of deformity in hip-joint disease; the radical and permanent cure of congenital dislocation of the hip; the relief of many of the urgent deformities of infantile spinal and cerebral paralysis; the permanent and speedy cure of flat-foot and allied conditions, and the relief and cure of many deformities dependent on tuberculosis, now only exceptionally successfully treated. The future development of orthopedic surgery opens up a wide field that scarcely invades operative surgery. It invites the physiologist, the pathologist, the surgeon and the mechanician alike, and the successful orthopedic surgeon of the future must combine all these.

At present the foundations are laid—that is all. The same principles which have guided the minds which have made the Brooklyn bridge an everyday conventional affair, will guide the minds which conquer the unsolved problems of orthopedic surgery. No one man will do it. A syndicate of far-apart thinkers, earnestly working for the same end, perhaps by diverse methods and from totally different standpoints, will ultimately formulate means of relief and cure which now seem unattainable.

Looking at the therapy of orthopedic surgery to-day, one must be impressed with the tendency which exists to cultivate the surgical at the expense of the mechanical. The eagerness of the medical student to witness the bloody and difficult operations in the amphitheater, while he neglects the equally necessary mechanical details of the orthopedic department of college work, is reflected in the profession at large. This applies to some who are best known as orthopedic surgeons. They will operate with skill and interest in a given case of deformity not, perhaps, really requiring operative work, only, when the operation is completed, to turn their patient over to an uneducated mechanic in steel for much of the subsequent treatment. On the other hand, it is not uncommon to find a complicated apparatus, useful enough in the hands of a skilled surgeon, but utterly useless in the hands of the inexperienced, pictured in the numerous catalogues of instrument-making firms, which are so freely circulated among the profession. Since the introduction of the plaster-of-paris bandage, the profession have been less dependent on this class of men, but only because the use of plaster of paris has been taught in the medical colleges. But to the skilled orthopedic surgeon the plaster-of-paris bandage in many instances will always be a "ready-made clothing" affair, for he will prefer, in nearly every case, to adjust and adapt an apparatus, based on scientific principles, which meets the indications and which can be adjusted even in minor particulars to meet the requirements of the condition under treatment. In short, he will make his apparatus a veritable prescription which can be modified by his own hands, and he will discard, as far as he can, all fixed forms of apparatus, of which the gypsum splint is a typical example. Those who thus make themselves personally responsible for the mechanical therapy of their patients are perhaps not numerous in the profession to-day. But those who have followed this method have probably saved orthopedic surgery as a distinct specialty from being absorbed by general surgery.

In order to bring the future therapy of orthopedic surgery up to a proper standpoint the medical colleges throughout the world should be equipped with a completely appointed mechanical laboratory where the students will come in contact with the various deforming diseases of childhood, and be taught in a practical way the mechanics of the human frame and the application of artificial mechanical means to relieve and cure deformity, especially of the parts involved in locomotion. Writing on this subject in 1898, I say:[3] "The next progressive step in the surgical care of deformities will be to establish a mechanical laboratory where the practical use of apparatus in the treatment of deformities may be intelligently taught in all our medical colleges."

This, it seems to me, is the most important step in the future therapy of orthopedic surgery. The student having been made familiar with the important first principles of mechanico-therapy, and educated in the essential details of the application of the ordinary forms of apparatus, the importance of mechanical therapy will be recognized, and much that is now left to the imagination of the student will be clearly defined. And this means that orthopedic surgeons who accept appointments in college work should be masters of a subject that is now quite neglected.

My plea, therefore, is for an advanced therapy for orthopedic surgery which will place it where it will be a true specialty, quite apart from general surgery, where those who practice it will bring to bear on its many interesting problems a close study of its pathologic bearings, a clearer conception of its surgical necessities and a recognition of the extreme value of a close study and a more scientific development of its mechanical side.

We have no school of applied mechanics in our medical colleges. We can demonstrate the surgical (operative) measures. We can illustrate symptoms and diagnosis, in the clinics and in the sectional teaching, but we can not give the practical instruction which is necessary in mechanico-therapy without a well-equipped laboratory; in short, a shop supplied with power and tools and controlled by a master at the head of it all.

When I read my essay on "What Is Orthopedic Surgery" before the Berlin Medical Congress in 1890, I attempted to define orthopedic surgery as follows:

"Orthopedic surgery is that department of surgery which includes the prevention, the mechanical treatment, and the operative treatment of chronic or progressive deformities, for the proper treatment of which special forms of apparatus or special mechanical dressings are necessary."

I can see no reason for changing this definition. Any surgeon fully mastering the conditions laid down in this definition will find his hands fully occupied and his heart and brain interestingly engaged in a work that will meet with ample reward, and which needs no other approval than that of his own conscience.

3. On the Care of Crippled and Deformed Children. N. Y. Medical Journal, July 9, 1898.

Amyloform as a Specific Against Coryza.—The personal and clinical experience of H. Lepa, as detailed in *Med. Blätter*, No. 5, establishes that the harmless powder, amyloform, will arrest a cold in the head in its early stages and relieve it at any stage. He combines it with equal parts of rice starch and uses it freely as a snuff every hour or oftener.

PRIMARY CARCINOMA OF THE NASAL CHAMBERS.

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It is not common to find malignant disease attacking the nasal chamber. When it does, however, it is found to be sarcoma more frequently that carcinoma. Kyle and Bosworth both point out the infrequency of these conditions in the nose. The latter, in 1889, succeeded in collecting 41 cases of sarcoma and 30 cases of carcinoma of the nasal cavities. Gibb,[1] after a careful search of the literature, has been able to add 70 cases of sarcoma and 48 of carcinoma, making a total of 111 cases of sarcoma and 78 cases of carcinoma. In a special practice of ten years he has only seen one case of primary carcinoma of the nasal chambers, but he considers sarcoma not nearly so rare as statistics would seem to indicate.

The case of carcinoma I wish to add to this list occurred in a German woman of 69 years of age, who had always been a hard worker. There is no special interest attached to it except the short term of its duration; but since this disease so rarely attacks the nasal chambers this case is worthy of record, if only to make the statistics more complete, and it brings the number now up to 79 cases.

The patient was not seen early enough to determine the exact position at which the trouble started, but the appearances indicated a beginning on the middle turbinate. The favorite site, however, of primary carcinoma of the nose, it is stated, seems to be in the proximity of the ethmoid and sphenoid cells, high up in the nasal cavity. When the case was first seen there was a history of occasional epistaxis and the usual stenosis, causing a stoppage of the nose, and it was thought to be due to an ordinary mucous polypus. The patient passed out of the writer's hands and consulted a local surgeon, who attempted to remove the growth. He succeeded in getting a portion of it away and in producing a hemorrhage that was with difficulty controlled. The patient later went to a surgeon in Philadelphia, who made two unsuccessful attempts to remove all adventitious tissue, and sent her home with the advice that she had better not have it further interfered with. When she came into my hands again, some time after this, there was a distinct swelling on the right side of the nose. There were lancinating pains through the face and head and an irritating characteristic discharge from the nose. The nostril was filled with the growth. The antrum and superior maxilla soon succumbed to its advance and its appearance on the face through the skin made the nature of the growth unmistakable. The cervical lymphatics were involved, and after a while the roof of the mouth as well as the upper pharynx showed the progress of the disease. By this time exophthalmos was present to such an extent that the right eye was crowded entirely out of its orbit, producing the characteristic frog-face appearance and being attended by intense suffering.

The progress and duration of carcinoma of the nose varies with the character of the growth. The medullary and adenocarcinomata are said to be the least malignant and of the longest duration. Neudorfer reports a case which had existed for eleven years. Heurteaux reports a case of tubular epithelioma which had lasted fourteen years, and a case of adenocarcinoma is reported by Hopkins which lasted twelve years. All other varieties are of rapid growth. The shortest duration noted by Gibb are the cases of Pepper and Shakespeare, in which death took place within seven months. The writer's case, which was seen a short time after the symptoms were first complained of, in November, died the following June, making a duration of seven months. I have seen no case reported of shorter duration than this. Bosworth's case lasted nine months. The average duration is stated at about a year and a half, and the case here reported is therefore one of unusually rapid progress. No doubt the rapidity of its progress was hastened by the surgical interference which, failing to completely remove the diseased tissue, only encouraged its further growth.

The prognosis in all cases of carcinoma of the nasal cavity is decidedly unfavorable. In the light of our present knowledge there is but one variety which offers any ground for a favorable prognosis, and that is the so-called cylindroma of Billroth. If the site is favorable for complete removal, Gibb and others advise removal, but unless one is reasonably sure of being able to remove completely all diseased tissue it is better not to attempt it, for the interference, instead of accomplishing anything, only accelerates the disease and produces a fatal termination more quickly.

121 S. Illinois Avenue.

1. New York State Journal of Medicine, January and February, 1902.

Special Article.

VACATION NOTES.

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(Continued from p. 246.)

3. AUCKLAND, NEW ZEALAND.

For the benefit of any of my friends who may chance to take a trip to New Zealand and Australia I will suggest the wisdom of remembering the fact that they may expect weather the diametric opposite of that which they leave at home. Leaving San Francisco in the early autumn and finding myself three weeks later in the beginning of the New Zealand spring impressed this on me most emphatically. The weather became raw and cold three days before arriving at Auckland. Soon after this change of weather we arrived at the 180th meridian and I had the, to me, novel experience of losing a day out of my life. Saturday night was succeeded by Monday morning. Sunday was lost. This was sad, but was mitigated by several things. In the first place I didn't know it was Sunday that I had lost until I discovered it quite by accident. I had lost all track of time. Then, too, it would have been a rainy Sunday, anyhow, and I couldn't have gone out in my automobile. Best of all, the volunteer pastor of our peregrinating flock was cheated out of his usual sermon. He was an English preacher, with atrophy of the "H" center, nasal obstruction and a raucous voice. His creed was not evident to my inexperienced ear, but it was strictly orthodox, and had so much brimstone and fire in it that, by contrasting their present with their future state, the seasick ones found themselves well. If one could only select the day which he loses—I have had several that I never would have missed.

Auckland, the principal city of New Zealand, is a most charming place. The harbor is landlocked, commodious and as beautiful as could be desired. I was told that the harbor of Sydney was much more beautiful, and was perforce compelled to believe that it must be so, as it has the reputation of being the most beautiful in the world; but the fact remains that Auckland harbor seemed ideal.

The scenic surroundings of Auckland are indeed wonderful. It is not my province to regale the readers of THE JOURNAL with descriptions of scenery, but I can not refrain from mentioning the scenic panorama unfolded to the tourist's gaze from the summit of Mount Eden—most appropriately named. The city of Auckland itself is especially beautiful as viewed from the mountain top. The harbor lies before one in all its loveliness, while stretching away in all directions as far as the eye can reach is a scenic display of picturesque buildings, well-kept small farms and gardens which it would be difficult to equal. In the distance one can see several of the wonderful inlets of the sea, or sounds, for which the New Zealand coast is so famous. Not the least of Auckland's attractions is its extreme cleanliness. Another favorable item is the cheapness of its hotels. Good hotel living is to be had at rates which stagger the American. Strangely, "tipping" is almost unknown.

The Auckland Museum is well worth seeing. It contains a collection of Maori implements, weapons, boats, houses and wonderful carvings, which form a most valuable contribution to ethnology, and is a pathetic monument to a noble and unfortunate race, which, through the rapacity and cruelty of the white man, has become almost extinct. It is not fitting that I should describe the various interesting relics of the Maoris. I will merely mention a couple of mummified heads prepared by them which are very remarkable for the preservation of form and features and the ligneous character imparted to the tissues by the method of embalming. One of these heads bears the tattoo marks which embellished it during life. The other has been engraved as if it were hard wood with various fantastic designs simulating Maori tattooing.

One of New Zealand's wonders is the Kea, a large, handsome parrot. This bird, originally herbivorous, has become carnivorous. He is a specialist in his way, and destroys sheep in a most peculiar manner. He alights on his victim's back, tears open the lumbar region and devours the perinephritic fat. He is not averse to other fatty portions of the body, but, when sheep are plenty, he absolutely ignores all portions of the sheep save the perirenal fat. Thousands of dollars worth of sheep are killed annually by these birds.

A feature of New Zealand which looks quite singular to an American physician is the large proportion of insane in the islands. The proportion of male insane to the total population is 1 in 165. Inclusive of Maoris it is 1 to 281. The female insane are in a proportion of 1 to 367. The grand total is 1 to 300, exclusive of Maoris. Inclusive of Macris it is 1 to 316. This is a frightful showing, and hard to explain, in view of the apparently favorable conditions prevailing in that beautiful country.

New Zealand is especially boastful of its scenic health resorts, and with reason. The lake country, of which the Rotorua district is the center, teems, with medicinal springs—both hot and cold—boiling lakes and phenomenal geysers. It is growing to be a very popular resort for invalids of all descriptions. Like all spas, those of New Zealand are accredited with hundreds of wonderful cures "given up by the doctors." The invalid who is not cured is consoled by the wonderful scenery, so what would you? A peculiar fact regarding New Zealand is the steady, marked decrease in the number of marriages. The country does not lack marriageable young men and women, and all conditions are favorable to matrimony, yet the institution is unpopular. The moral status of the islands is nevertheless high and the proportion of illegitimate children low. The latter-day New Zealand family is small. These conditions are really a source of uneasiness to the thinking residents. There is no explanation of a social character for the abnormal conditions mentioned. One can not avoid the suspicion that some general neuropathic cause underlies both the phenomenal prevalence of insanity and the paucity of marriages.

New Zealand certainly does not suffer from a lack of hospitals. The annual expenditure for hospitals is considerably over $500,000 aside from private subscriptions and endowments; this sum for a population of 900,000 whites and 40,000 Maoris is by no means insignificant.

There are a number of private and several government sanatoria at the various spas, in the North Island especially. The government owns all the hot and mineral springs, and at Rotorua provides a resident medical officer, whose services are free to the patrons of this famous resort. One great advantage of government ownership and supervision is the nominal fees charged for living and baths at the various springs.

Auckland has but one hospital worthy of the name, the Auckland Hospital. This is under the control and support of the municipality. It is located most favorably on a beautiful hill just out of the thickly settled part of the city, in the midst of a large acreage of as fine land as ever lay out of doors. The spacious grounds are well kept and beautified by superior landscape gardening. The main hospital building was erected in 1875, and looks more than its age. It needs the painter's services badly, but its architecture is not unhandsome. The hospital, with its charming environments, makes a very attractive picture. The interior appointments of the main building are, of course, not strictly modern, yet there are many hospitals in our American cities which might well pattern after that of Auckland. A number of fine pavilions have been added from time to time, mainly by private charity. The nurses' home, in particular, is worthy of notice, and a special pavilion for gynecology shows the progressiveness of the institution. These are all fine buildings, located at a sensible distance from the main hospital. There are also special pavilions for contagious diseases, the hospital being a general one and taking all classes of cases. The only cases of plague which Auckland has had—two in number—were cared for here. The hospital has an average attendance of 205 patients, so the annual total is very large. The accident and emergency service is excellent. Over 1,000 surgical operations were performed last year. Operations for appendicitis were very numerous. Dr. Collins, the superintendent, operated on two cases the afternoon before my visit to the hospital. He was particular to inform me that he only opened and drained in cases with a large walled off pus cavity, using gauze drainage. I asked him whether the hospital surgeons leaned toward radicalism or not, and he replied: "We operate as soon as we get the case, save under special and exceptional conditions." How Americanism does spread, to be sure! Dr. Collins modestly asserted that they were somewhat behind the times over there—unavoidably so. A few moments' conversation with him, however, showed that self-laudation was not his strong point. Good work, up-to-date work, is being done in Auckland, and Dr. Collins is doing his share of it.

Apropos of the American influence in surgery abroad, sundry remarks made by Dr. Collins were very pleasing. Speaking of vaginal hysterectomy he said: "We used to use the permanent forcipressure for the vessels, but we now use Pryor's operation of splitting the uterus in halves. It is a fine operation." Referring to procedentia, he said: "Here is our favorite operation." Down came a text-book; it was opened at a full-page illustration, and the doctor pointed his finger at—my friend, E. C. Dudley's, operation. Hurrah for Chicago! He wound up by saying he was going over to see our own Kelly to get some points. Verily, the world is moving United Statesward. The gynecologic service at the Auckland is very large and the cases varied. The vaginal operation of hysterectomy is frequent enough to delight any of its partisans.

The Auckland Hospital has an operating room built three or four years ago, which was as good as the best at the time. It is to be remodeled and refurnished, however, on "American lines." The out-patient department of the Auckland is very large, 11,000 patients having been treated last year.

There is no midwifery at the Auckland, such cases are sent to a small, rather inferior maternity hospital, an independent institution. Prostatic surgery is at the forefront in New Zealand. Suprapubic prostatectomy is the favorite operation, but the Bottini is being tried in occasional cases. As usual, I said a good word for the perineal method in suitable cases.

An excellent training school is one of the features of this excellent institution. Its usefulness is greatly enhanced by the splendid building which one of Auckland's wealthy citizens built for it—the pavilion already alluded to. The number of nurses is 57.

(To be continued.)

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MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

We print in this issue a communication and an official announcement, each of which is of importance at the present time. The communication is a letter from the President of the American Medical Association to a New York physician and bears directly on the present condition of affairs in that state, and indirectly on membership in the American Medical Association throughout the United States.

As stated by Dr. Billings, a committee was appointed by each of the New York state bodies for the purpose of considering the possibility of uniting the two into one organization. For a time it seemed that the efforts of the committees would result satisfactorily and a union be consummated. Then matters came to a standstill and the prospect for a settlement was as far off as ever. At this point President Billings, hoping against hope, asked for a conference with the two committees. The result of the conference is to be found in his communication. In brief, it appears that the proposition of the committee representing the New York State Medical Association was at first accepted, but later refused by the committee representing the society, viz., that the Medical Society of the State of New York should be the name of the reorganized body, that the general plan of organization of the New York State Medical Association should be adopted, that the New York State Medical Association should cease to exist, and that a committee representing both should go before the legislature for a new charter.

While at the recent conference objections were made by the society committee to certain business and legal obstacles, the code, without doubt, was the one thing that blocked the efforts for union. Considering that a revised code had already been introduced and is in the hands of a committee to report at New Orleans, that an informal agreement relative to certain changes in the code was made at Saratoga between men representing the society, the association and the American Medical Association, and that affiliated societies are not now required to formally adopt the code, it does seem that the committee representing the society was not governed in its action by a too great amount of liberality.

The official notice regarding membership needs no further comment or explanation than is contained in the circular letter signed by the Secretary and the preamble, with its decisions, signed by the President and the Secretary. The medical profession is being organized on a definite and systematic principle, a principle which is the basis of all organizations, viz., that membership in the lower is necessary for membership in the higher body. This principle has always been the one governing membership in the American Medical Association, although it has not heretofore been enforced.

ANOTHER STEP IN THE RISE OF SURGICAL PHYSIOLOGY.

Physiology, and by necessity experimental physiology, is by its nature the basis of restrictive and constructive surgery in so far as this is scientific and other than empirical. Physicians and surgeons are beginning at last to realize this principle adequately, although, of course, it has been always obvious to anyone who consciously defines to himself physiology as the science of normal organic function. Surgeons seem recently to have acted on this hopeful idea more than have physicians proper—and they have reaped corresponding benefits. One has heard for many years what one is sometimes tempted to term a surfeit of pathologic anatomy, whereas at present the signs certainly suggest physiology as the systematic science likely to add most to medicine during the succeeding years.

The latest contribution of experimental physiology to surgery and medicine is by Crile[1] of Cleveland. By more than two hundred experiments on dogs (conducted without pain) Crile has been privileged to explain more satisfactorily, at least, the physiology of collapse and shock, and to show how these may be prevented or overcome in fact, as formerly they have been in theory. Collapse, less dangerous than shock, appears to be a condition of very low systemic blood-pressure, whatever be the cause, whether hemorrhage, poisoning of the vasomotor center, serous effusion, extreme peripheral stimulation, or what not. Shock, on the other hand, seems to depend on low pressure of blood in the tissues when this depression is due to exhaustion of the vasomotor center, supposedly in the medulla oblongata. Of the three neurons in the vasomotor path, the uppermost is probably the one which is exhausted in shock. In this condition the ordinary cardiac stimulants, such as strychnin, digitalin, alcohol, are proven either useless or positively harmful, for these stimulate the heart, and mere heart action, however vigorous, can seldom overcome the low blood-pressure in arteries no longer kept in tone by the exhausted center. Alcohol, it is found, does not produce even the momentary rise which strychnin and digitalin afford. The infusion of normal saline is beneficial for a very brief time, raising the pressure, but the injected liquid in a few minutes finds its way into the intestine; it is in collapse, then, and especially that from hemorrhage, that the injection of salt solution is of so great use.

1. See preliminary note in THE JOURNAL, Jan. 24, p. 244.

In shock the blood-pressure must not only be raised, but it must be kept raised until the agencies causing the shock have abated and the organism has begun to regain its equilibrium. Since the vasomotor center in shock is out of function, this effect must be brought about in the periphery by agencies acting directly on the toneless arterioles. One way, logically, to bring this about would be to make universal pressure on the vessels, and accordingly Dr. Crile devised and had constructed a suit of rubber consisting of a double air-tight fabric which could be drawn over the legs and abdomen and over the arms and then inflated till it exerted the required pressure. This raises mechanically the blood-pressure all over the body and prevents the especially dangerous cerebral anemia.

But more notable even than this in its effects is adrenalin chlorid, one of the newest of the organic enzymic products, and certainly that at present with the largest promise of usefulness. This enzyme, as is its physiologic function, acts directly on the muscular tissue of the heart and arteries, causing these by this means to regain their normal tonus, thus restoring the pressure necessary for the tissues to carry on their usual metabolism. It is recommended that adrenalin be very slowly injected into a vein, as from a pipette or burette, thus allowing a very long continuance of the injection. This is necessary, for adrenalin is quickly oxidized and its enzymic properties lost when it is put into the circulation.

Such a procedure undoubtedly makes it practicable to perform safely much longer and more depressing surgical operations than formerly were proper. Its chief advantage comes, however, from the means it so readily affords of tiding over a bad case of shock of whatever origin, until natural conditions of the organism begin to be spontaneously restored. We shall await the development of the practical applications of this investigation, which seems likely to have an important bearing on future surgery.

AN ANTIDOTAL SERUM FOR INTOXICATION WITH MORPHIN.

The tolerance in some instances to drugs whose administration is long continued is a well-recognized clinical fact, the explanation for which may perhaps be found in the modern views on the subject of immunity. It seems not impossible that there may be produced in the body under such circumstances antisubstances capable of acting in the same way as the antitoxins of the infectious diseases. It has been observed that while in cases of acute intoxication with morphin, for instance, the greater part of the poison is eliminated with the feces, in cases of chronic intoxication with the same substance very little of the poison is eliminated with the excreta. From this observation it is concluded that under the latter conditions new factors have been created for the destruction of the morphin in the body.

With the object of determining whether it is possible first to develop in animals a relative degree of immunity to the effects of morphin and then with the serum obtained from such animals to develop a similar immunity in other animals, Leo Hirschlaff[1] undertook an experimental study. Rabbits were first employed for the preparation of a curative serum because they exhibit great resistance to alkaloids in general and to morphin in particular. A daily injection was given, and two kinds of serum were prepared, one from animals immediately on the close of their immunizing treatment and the other from animals four weeks after conclusion of the treatment. While control animals succumbed to lethal doses of morphin, other animals previously treated with the protective serum did not succumb to an equivalent dose. As the results in rabbits exhibited marked variability, mice were later used in the observations. Here again it was found that animals previously treated with the curative serum were secure against lethal doses of morphin, while animals treated merely with normal serum or not all previously treated succumbed. The best results were obtained with the serum from animals that had received as much as 10 grains of morphin at a dose, and there was little difference whether the serum was obtained immediately on completion of the protective treatment or after an interval of four weeks. It thus seemed demonstrated that by the treatment for some time of animals with progressively increasing doses of morphin protective substances are generated in the blood that are capable when injected into other animals of protecting these from acute intoxication with a lethal dose of the same drug.

Analogous results have been obtained on a smaller scale by other observers. The question remained open, however, whether these observations on lower animals were applicable also to man. An opportunity presented itself for the employment of the curative serum in a case of opium poisoning in a human being, and fortunately the result justified an affirmative decision. The serum was employed also in several cases of insanity in which morphin had been given for a long time and attempts at withdrawal had always been attended with unpleasant results. In these withdrawal was now effected without any undesirable manifestations. If the future of this serum proves as bright as its seeming possibilities indicate, it will be indeed a valuable addition to therapy.

A MEDICAL LIBRARY JOURNAL.

The first number of the *Medical Library and Historical Journal* has come to hand. This quarterly is published in Brooklyn, under the editorship of Drs. Albert Tracy Huntington and John Smart Browne, and contains a considerable amount of good reading in the way of original articles, on matters of medical, historical and bibliographical interest and the transactions of the Association of Medical Librarians, together with editorials, book notices, etc. It contains an Index Medicus of medical books published in the last quarter of

1. See p. 343 of this issue for abstract (162) of the original.

1902, which it claims is as nearly correct as possible, though the editors admit that perhaps one or two local publications might not have come to their attention.

KOCH'S NEW TYPHOID PROPHYLAXIS.

The *British Medical Journal* of January 10 editorially notices a recent address on typhoid fever by Professor Koch, in which he takes views in regard to the prophylaxis of the disease that are of interest coming from him and for being somewhat different in their intent and consequences with those usually held. Instead of using special precautions to protect the drinking water, he prefers to attack the disease in the foci where it exists, and holds that the surest method of prevention is in the isolation of the patient and disinfection of clothes and excreta. In this way he has experimented at Treves so successfully that he has been able to stamp out the disease completely in several villages which had been notorious for its frequency. Our readers will see that this is somewhat along the line on which Koch fights malaria. He attacks the disorder in the individual, and prevents infection by preventing infection breeders. It will be a boon to tax-payers if we can consider the question of water supply a secondary matter and make the problems of sewage disposal and water supply, with their expensive installments, needless. But this, we think, will hardly be the case. Koch's method, however good, will not substitute itself to the satisfaction of sanitarians. In fact, they will be slower to accept such opinions than were the tuberculosis specialists to accept his opinion as to the transmissibility of bovine and human tuberculosis. It will be an excellent idea, however, for all practitioners to follow out his policy of thorough isolation and complete and absolute disinfection of all excreta in such a way as to make it impossible for infection to escape into the sewage and thus directly or indirectly contaminate the water supply. The method is a comparatively easy one. It only requires close and conscientious attention and thorough instruction and insurance that such instruction is carried out. We would advise individual physicians to follow out Koch's ideas. It will cost but little and will perhaps only require a little more careful attention than has hitherto been given to isolation and disinfection.

THE DIETETIC VALUE OF OYSTERS.

The oyster is popularly looked on as a palatable, easily digestible and nutritious article of food. That there is some danger from its consumption has of late been shown in a number of instances in which typhoid fever has been acquired from the ingestion of oysters that have been grown or fattened in waters contaminated by discharges from patients suffering from that disease. It has recently been suggested that lemon juice is inimical to the vitality of the typhoid bacillus, and the suggestion appears to be sustained by the results of bacteriologic investigation. Accordingly, the recommendation has been made that the danger of infection with typhoid fever through the eating of oysters can be greatly lessened, if not entirely eliminated, by the addition of lemon juice. For the purpose of determining the nutritive value of the oyster the *Lancet*[1] recently had made in its own laboratory a study of the chemical composition of native oysters, which yielded interesting and instructive results; and there is no reason to believe that the findings would be essentially different in the case of other varieties. It is pointed out that although the actual amount of nutritive material in a raw oyster is small, it comprises all classes of food substances, namely, proteid, carbohydrate, fat and certain mineral salts, and these are present in a peculiarly assimilable form. Generally speaking, the raw mollusc consists four-fifths of water, the remainder being constituted almost entirely of organic matter. Of the latter about 45 per cent. consists of proteid, an equal proportion of non-nitrogenous matters and the remainder of glycogen and fat. Mineral matters are present in about 2 per cent., including sodium chlorid, soluble phosphates, calcium phosphate, magnesium phosphate and copper in the form of oxid. The oysters were found to be readily soluble in cold water, diluted gin and Chablis (a delicately acid wine), but not in stout. The oyster is rendered tough and indigestible by boiling. The liquor contained in the oyster shell consists principally of water and sodium chlorid and almost no organic matter, and accordingly it possesses no special nutritive value.

WHAT ONE COUNTY IS DOING.

It has been said, and with some truth, that medical men are not business men. It is certainly true that in the past our medical societies and medical organizations have not been business bodies in any sense of the term, but purely scientific and educational. While this, as far as it goes, is noble and idealistic, nevertheless it is recognized that a little more business, a little more medical statesmanship and a little more attention to the materialistic side would not be out of place, and ought not to detract from the scientific and educational, but rather add thereto. In the present plan of organization the business principle, while not pushed to the front, is recognized. In this connection we can not resist the temptation to call attention to what one society has already done. The Ramsey County (Minn.) Medical Society, the county in which St. Paul is situated, four years ago began the formation of a library and at the same time founded in connection with it the *St. Paul Medical Journal*. The library has been gradually built up and at the present time has over four thousand volumes, all catalogued and shelved in a commodious hall, which is also the meeting room for the society. The use of the hall is given, rent free, by the management of the building, which is devoted to offices almost entirely occupied by physicians. The journal has been a financial success from the beginning and puts considerable money into the treasury of the society each year, beside being the means of placing on the shelves of the library practically all the better books that are published, several hundred volumes annually. Further, all the exchanges are placed in the library, so that practically every important journal of the country is in the reading room of the society. The society also has a well-equipped laboratory for chemical and bacteriologic work, one of the important prod-

1. The London Lancet, Jan. 3, 1903, p. 71.

ucts of which is sterilized catgut, sold at a profit. The laboratory gives to the members of the society a place in which to work, and many avail themselves of the privilege. The society takes great pride in its journal, which is one of the best medical monthlies in the country, and which is edited on a high ethical standard. Each enterprise is separate and distinct from the other, each making a full report to the society at the end of the fiscal year. One of the members says, "Our dream is to lay by a little money every year for the establishment of a fund which will ultimately enable us to buy a piece of ground, and later to own our own home." There is no doubt that the society has been built up and strengthened very materially by these enterprises. It has now over 150 active members and the officers expect very shortly to have in the society every reputable practitioner in the county. What the Ramsey County Medical Society has done can be done by other societies similarly situated throughout the country.

Medical News.

COLORADO.

December Deaths.—The total number of deaths for the month was 843, equivalent to an annual death rate of 17.12 per 1,000. Typhoid fever caused 44 deaths; diphtheria, 19, and scarlet fever, 4.

Communicable Diseases.—During December the following cases of communicable diseases were reported to the State Board of Health: Typhoid fever, 242; diphtheria, 178; scarlet fever, 157, and smallpox, 126.

Personal.—Dr. James B. Sanford, Castle Rock, was elected to the House of Representatives in November last, and on January 7 was elected speaker of the house.——Dr. William A. Cundy, Denver, has sold his practice and has located in Pasadena, Cal.

Dedication of Guggenheim Pavilion.—The Guggenheim pavilion at the National Jewish Hospital, Denver, was formally dedicated January 25. This pavilion has been erected at a cost of $35,000. In the three years the hospital has been in existence, $225,000 has been contributed for its support.

Allege Diploma is Bogus.—Dr. Gottfried Leo Hagenburger, formerly of Helena, Mont., charged with filing a bogus diploma with the State Board of Medical Examiners of Colorado, has been granted a continuance. This individual had similar trouble in Montana several months ago, it being then alleged that he had never been in attendance at the medical school of the University of Kiel, and that his diploma, purporting to be issued by that institution, was a forgery.

ILLINOIS.

State Board of Health.—At the annual meeting in Springfield, January 13, Dr. James C. Sullivan, Cairo, was elected treasurer.

Smallpox Closes Schools.—It is announced that the public schools in the vicinity of Alto Pass have been closed on account of smallpox.

Hospital Gets Lots.—By the will of the late Chancellor L. Jenks three lots in Evanston are devised to the Evanston Hospital Association.

Staff for St. Mary's Hospital, Quincy.—The following staff has been appointed for St. Mary's Hospital, Quincy: Surgeons—Drs. Otis Johnston, John D. Justice and William H. Baker; gynecologists—Drs. Henry Hart, John K. Reticker and Otto F. Wellenreiter; pathologists—Drs. John D. Justice and John A. Koch; oculists and aurists—Drs. Henry M. Harrison and Franklin T. Brennan; physicians—Drs. Grant Irwin and John A. Koch, and anesthetist, Dr. Thomas Knox.

Chicago.

Physician Robbed.—On January 22, Dr. Michael T. Naughton was held up and his money and gold watch were taken from him.

Hospital Fete Nets Thousands.—The "Fête of All Nations," held January 24 to 26, in behalf of St. Luke's Hospital, was successful beyond all ideas of its managers. More than $20,000 was realized for the hospital.

To Guard Against Contagion.—The prevalence of contagious diseases has led to the passage of an order by the City Council for an assistant city bacteriologist and a medical inspector for the municipal lodging-house, while an appropriation of $3,000 for an isolation hospital for the Parental School was also voted.

The Deaths of the Week.—The commissioner of health, in the bulletin for last week, congratulates the city on a decrease in the death rate. There was a drop of 9.7 per cent. from the average weekly death rate of the previous five weeks and of 12 per cent. from the rate of the week before. The report says:

> The total deaths reported during the week were 551, an annual rate of 15.23 per 1,000 of population, as compared with 626 and an annual rate of 17.31 per 1,000 during the previous week. The rate, however, is still excessive, being nearly 10 per cent. higher than the normal for the season of the year.

Pneumonia Outnumbers Tuberculosis.—The registrar of vital statistics, in his report for the week ended January 24, discusses the pneumonia-tuberculosis death ratio as follows:

> For twelve successive weeks the deaths from pneumonia have largely outnumbered those from consumption, although the disparity was not so great last week as in the previous weeks. During this period 6,579 deaths from all causes have been recorded, of which total 630—or a little more than 9.5 per cent.—were from pneumonia. These two causes account for more than one-quarter (26.12 per cent.) of all deaths during the three months, and of these there were 42 per cent. more from pneumonia than from the so-called "Great White Plague."

INDIANA.

Conditional Benevolence.—A citizen of Connersville is said to have offered $1,000 in cash and two building lots to the city, with a provision that each church has a director and $9,000 additional be raised for a city hospital.

St. Anthony's Staff Feasts.—A banquet was given by the sisters, at St. Anthony's Hospital, Terre Haute, to the medical staff, January 5. Dr. Frederick W. Shaley was re-elected president of the staff, and Dr. Charles Wyeth, secretary-treasurer.

Sues on Account of Fall.—Dr. James H. F. Prentiss, Indianapolis, has brought suit against James and Mary Proctor, for $10,000 damages for personal injuries alleged to have been received by him in a fall down a flight of stairs in a building owned by the defendants.

Personal.—Dr. Hugo M. Lash has succeeded Dr. Frederick C. Heath as a member of the Indianapolis Health Board.——Dr. Alfred N. Towles, Irvington, has been appointed physician at the Indianapolis City Dispensary, vice Dr. Frank Kennedy, who has become house-physician at the Julietta Asylum.

Physicians Protest Against Pesthouse Location.—Several prominent physicians of Indianapolis, headed by Dr. William N. Wishard, have written letters to the local board of health protesting against the erection of the isolation hospital on land immediately adjoining the City Hospital, on the ground that the close proximity of the pesthouse will endanger the lives of patients in the hospital.

IOWA.

New Hospital Ready.—Patients were transferred from St. Bernard's Hospital to the new Mercy Hospital, Council Bluffs, January 19. The old building will be devoted to the care of nervous patients.

Prepare Premedical Courses.—Several Iowa colleges, including Grinnell, Cornell and Augustana, are arranging premedical courses in connection with the State University whereby graduates may be admitted to sophomore standing in the medical department.

Cornerstone Laid.—The cornerstone of the pathologic laboratory of the College of Medicine of the State University, Iowa City, was laid, January 15, with appropriate ceremonies. Dr. John C. Shrader, one of the founders and ex-dean of the college, officiated and delivered the address.

Personal.—Dr. Frances M. Powell, Glenwood, has been reappointed superintendent of the Institution for Feeble-minded Children, for a sixth term of four years.——Dr. Andrew W. McClure, Mount Pleasant, has resigned from the board of insanity commissioners, and has been succeeded by Dr. Otto A. Geeseka.——Dr. John G. Mueller, city physician and health officer of Iowa City for four years, has resigned.——Dr. Anson R. Brackett, Charles City, is critically ill with septicemia.

MARYLAND.

Smallpox in Kent County.—Dr. Frank Messick, Still Pond, has been appointed health officer of Kent County, vice Dr. Urie, resigned. There are no new cases of smallpox reported at Chestertown in that county since the discovery of the case in the colored girl from Wilmington, Delaware, January 20. A quarantine of the child and of all who came in contact with her has been established, and all residents of the town have been vaccinated. A pest-house has also been made ready for emergencies.

Baltimore.

Baltimore General Dispensary.—At the annual meeting of the Baltimore General Dispensary, January 15, Drs. Henry M. Baxley, Edmund A. Munoz and James C. Holdsworth were elected attending physicians for the year.

St. Joseph's Hospital Dispensary reports 12,471 cases treated during the year, distributed as follows: Surgical, 5,240; medical, 4,718; children, 627; skin, 215; eye and ear, 479; gynecological, 563, and nose and throat, 629; 16,849 prescriptions were filled.

Hospital Annual Meeting.—At the annual meeting of the board of governors of the Presbyterian Eye, Ear and Throat Charity Hospital, the medical executive committee, which has managed the medical affairs of the institution for the last four years, consisting of Drs. Herbert Harlan, Hiram Woods and Frances M. Chisolm, was reappointed for this year, with Dr. Herbert Harlan as surgeon-in-chief.

Disease and Death.—The death rate continues high, 249 deaths being reported last week, being 22.02 per 1,000 for whites and 31.07 for colored. Among causes of death affections of the respiratory organs led, with 31 from pneumonia, 17 from broncho-pneumonia, 2 from acute and 5 from chronic bronchitis. Tuberculosis of the lungs caused 26 deaths and measles 11; 311 new cases of measles were reported.

Silver Nitrate in Septicemia.—The physicians of the Union Protestant Infirmary are experimenting with nitrate of silver in cases of blood poisoning with alleged success in several cases. The formula given is 1 c.c. of a 10 per cent. solution of nitrate of silver to 1,000 c.c. of sterilized water. Of this 400 to 1,000 c.c. are injected into the vein at the elbow. Dr. J. Whitridge Williams is said to prefer the normal salt solution.

National Medico-Historical Society.—The proposal for a national society devoted to the history of medicine, made in the new *Medical Library and Historical Journal*, just issued, is meeting with much favor, and it is probable that a number of gentlemen of literary tastes and connected with the Johns Hopkins Hospital Historical Club will take part in its foundation. It is a little singular that at this time the interest in the history of medicine should be greater in this country than in the older countries of Europe. It is only within the last two years, for example, that such societies have been founded in France and Germany.

Methyl Alcohol Blindness.—The trial of the suits against a Baltimore drug firm for blindness due to the use of methyl or wood alcohol instead of grain alcohol, in the manufacture of essence of Jamaica ginger, began in the Superior Court, January 22. The first suit for $30,000 was brought by Dr. George A. Brehm of Rolandville, who claims to have been made entirely blind two days after drinking three bottles of the essence on July 27, 1898. He bought the preparation from a storekeeper on Elliott's Island, Dorchester County, where he then lived. Dr. Reid Hunt and Mr. Henry P. Hynson, druggist and ophthalmologist, testified.

NEW JERSEY.

Physician Gives Laboratory.—Dr. William B. Graves, East Orange, has presented a well-equipped bacteriologic and pathologic laboratory to the Orange Memorial Hospital, to be known as the Graves Laboratory.

Personal.—Dr. Charles C. Hendrick, Jersey City, county medical health inspector, has been removed from office.——Dr. Edwin J. G. Valentine, Jersey City Heights, has been made a member of the Hudson County Health Board.

John Carnrick Dead.—In the recent death of Mr. John Carnrick, Jersey City, the ranks of the pioneer drug trade of the United States have lost an able leader. He was among the first to bring out proprietary preparations and to manufacture drugs for physicians. His life was largely devoted to scientific research in his chosen field of pharmacy. He was 65 years of age, and had been a student of pharmacy for more than forty years.

NEW YORK.

Smallpox at Fort Slocum.—Smallpox has broken out among the 400 soldiers at Fort Slocum, just outside of the Borough of the Bronx.

Scarlet Fever at Dunkirk.—Dr. George E. Ellis, recently appointed health officer of Dunkirk, has been obliged to close one of the public schools because of an epidemic of scarlet fever.

Voluntary Patients for State Insane Hospitals.—The State Commission in Lunacy recommends the extension of the system of voluntary patients for the reason that in certain private asylums these patients receive inadequate care and treatment.

Registration of Trained Nurses.—It is said that a bill will be introduced into the legislature, providing for the supervision of all nurses' training schools by the State Board of Regents. According to the provisions of the bill, the required course of training must be at least two years in an incorporated general hospital or a training school connected with such hospital.

No Appropriation for State Tuberculosis Hospital.—It has come to light that through an error in the records of the last legislature, either accidental or intentional, the bill calling for a reappropriation of $50,000 for the State Hospital for Tuberculosis failed of passage in the assembly. Senator Davis, who introduced the bill, and others, insist that the bill did pass the assembly. The fact that the appropriation had not been made was not discovered until the trustees attempted to make the first payment on the site selected for the hospital.

New York City.

Fire in Seton Hospital.—A fire was discovered in the basement of the Seton Hospital, January 18, which was extinguished with small loss without the help of the fire department.

Bacteriologist and Laboratory Assistant Wanted.—The Municipal Civil Service Commission announces that open competitive examinations for the position of bacteriologist (fourth grade) and laboratory assistant (first grade) will be held February 3 and 6 respectively. Applications should be made to the secretary, 61 Elm Street, New York City.

The Health Department and Malaria.—The health department has employed a corps of inspectors to go through the various boroughs and plot down on maps all sunken plots and excavations in which water may remain and become stagnant. With the aid of the department of street cleaning, these holes will be drained and filled in. The sanitary inspectors are directed to pay special attention to rain barrels and pools in back yards. Finally the health commissioner has sent a circular letter to all physicians in the city, calling their attention to resolutions recently adopted by the board of health. These require all public institutions, hospitals, homes and asylums to report all cases of malarial fever coming under their observation, with information whether the attack is a primary one or a relapse, and where the disease was apparently contracted. All physicians are requested to furnish similar information with regard to their malarial patients, and are encouraged to do so by the offer of examining blood specimens for them for the malarial plasmodium. The circular closes with the statement that acute and chronic ophthalmia (trachoma) and whooping cough are on the list of contagious diseases, which physicians are required to report.

Buffalo.

Sudden Deaths from Natural Causes.—It has been suggested that the health department investigate deaths from natural causes without medical attendance. Heretofore these investigations have been carried on by the medical examiners. Dr. Greene, the health commissioner, will cause these investigations of sudden death from natural causes to be made by the district physicians.

Grand Jury Condemns County Hospital.—The grand jury of the Supreme Court of Erie County has made its final report and has this to say concerning the Erie County Hospital:

> The grand jury desires to say the hospital is entirely inadequate to the present needs of the county, and in view of the rapid growth of the city, the county will need much more room in the very near future for the hospital.
>
> In the opinion of the grand jury the county should furnish increased facilities for the hospital and we would recommend that the county purchase a farm outside the city limits for the poor of the county and that the present buildings now used for the almshouse be devoted to the use of the hospital.
>
> The operating room of the hospital is not what it should be to meet the sanitary requirements of the present time. It should be remodeled to equal the present sanitary demands of physicians and surgeons.

PENNSYLVANIA.

Railroad Yards Quarantined.—The railroad yards at North Bessemer are quarantined because of a smallpox epidemic in Plum Township, Allegheny County.

Appropriation to Suppress Smallpox.—The state senate has passed a resolution providing for the appropriation of $15,000 to aid the State Board of Health in suppressing smallpox.

A Healthy City.—Secretary Lee of the State Board of Health has notified the authorities of Williamsport that reports show that city to be the healthiest in the state, and the fourth healthiest in the United States.

Eddyites Fight for Charter.—Argument was recently made before the Supreme Court of the state regarding the granting of a charter to the First Church of Christ, Scientist, of Philadelphia. District Attorney Weaver contended that the so-called "divine healing" is a menace to the community, against law and public policy; that the appellants come into court with two contrary doctrines, namely, saying that there is no such thing as disease, and yet they educate "healers" to cure sickness. He further argued that the sect does nothing to prevent the spread of disease, and does not regard the means of prevention in epidemics such as is recognized by boards of health. Attorney Weaver had been requested by the board of judges to defend the decision of President Judge Arnold of Common Pleas Court, refusing a charter to the church.

Philadelphia.

Typhoid and Other Deaths.—For the week ended January 24, 35 deaths from typhoid fever occurred; there were 294 new cases reported, a decrease of 29 cases, as compared with the preceding week. Deaths from all causes numbered 615, a higher death-rate than for any week in the last two years.

Avoid Consumptives' Houses.—January 21 Dr. Lawrence Flick lectured on tuberculosis before the women's clubs. He warned especially against moving into houses previously occupied by consumptives, where disinfection had not been done, and also against the employment of consumptive servants, and emphasized the efficiency of cleanliness as a preventive measure.

New Maternity Donated.—At the recent annual meeting of the board of trustees of the Presbyterian Hospital announcement was made of a gift of $30,000 by an unknown donor, for the erection of a new maternity house. The work of construction will be begun in the spring. The women of the Presbyterian churches in Philadelphia have started a fund for its endowment. The report of the superintendent showed that 2,500 persons were treated in the hospital within the past year and 6,000 at the dispensaries.

Vaccination Against Tuberculosis.—Dr. Leonard Pearson, dean of the Veterinary Department of the University of Pennsylvania, is reported to have discovered a method of vaccination whereby cattle may be made immune to tuberculosis. In a recent experiment, four healthy cows were taken; two were vaccinated, and later all four were inoculated with tubercle bacilli. When killed, the two which had been vaccinated showed no signs of tubercular infection, but the others had marked evidence of the disease.

A Medical Carnegie Library.—Largely through the efforts of Dr. S. Weir Mitchell, Andrew Carnegie has made a gift of $50,000 to the College of Physicians of Philadelphia, on condition that the society raise a like amount. About $18,000 has already been raised, and efforts are being made which will doubtless secure the requisite sum. Much of the gift will probably be used to enlarge and improve the college building, especially the capacity for library purposes. The medical library, in value and number of volumes, is second only to the Surgeon-General's library, Washington.

May Repeal Law.—The state legislature is showing every disposition to remove the obstacle in the way of Philadelphia accepting the Henry Phipps gift of $1,000,000 or more for the establishment of an institute for the study and treatment of tuberculosis. A bill to repeal the act of 1899, which forbids the erection of a hospital in the crowded part of a city, has passed the senate, and a committee of the house has announced its decision to report the bill with a favorable recommendation. Temporary quarters have already been leased for the institute, and it is hoped that it may be opened in about two weeks.

GENERAL.

Ecuador Quarantines San Francisco.—All ports of Ecuador have been closed to all vessels from San Francisco which left that port January 20 or later, because of fear of the plague. All ports are also closed to all plague-infected Mexican ports.

Publishing House Branch Secures Editor.—The firm of W. B. Saunders & Co. have established a branch office in the "Flatiron Building," New York. Dr. Reed B. Granger, who has been the managing editor of the *New York Medical Journal* for many years, has resigned that position to take up the management of the Saunders new office. The apartments on the seventeenth floor give a fine view of the city and will be a pleasant place for visiting physicians to call. Dr. Granger's wide acquaintance and his executive ability will serve him well in his new position.

Army Surgeons' Examinations.—Candidates for appointment in the Medical Corps of the Army will be examined by the Army Medical Board in Washington, April 20, and each Monday thereafter so long as is necessary. Full information as to method of application, nature and scope of examination, etc., will be furnished by the Surgeon-General's office on request of those interested. Applicants from civil life are restricted in age to 29 years, and hospital training or professional experience in private practice is expected of all candidates. There are at present thirty-five vacancies to be filled.

The Plague Unchecked in Mexico.—One-third of the 15,000 inhabitants of Mazatlan have left that city and every community within a large radius, including the border states and territories of the U. S., is apprehensive lest plague be spread thereby. The appearance of the disease is reported at several cities in Mexico. A wholesale poisoning of rats in Mazatlan has failed to be effective and the government has ordered the valuable shipyard to be burned to destroy infection. The adobe houses are being burned and razed to destroy the rats. One hundred and thirty thousand dollars has been received by the charity commission for relief work. A supply of the Yersin serum has been sent for and is eagerly awaited in the hope of relief by inoculation. There have been more than 150 deaths at Mazatlan. The mortality average is 33 per cent. The origin of the disease is discussed in the papers of the Southwest and the infection is laid at the door of San Francisco. In the absence of any present proof, it is said to be the most probable solution that ships carried infected rats or persons from San Francisco to Mazatlan. That city is isolated by mountains from the rest of Mexico, no railroad enters it and almost all of its communication with the world is by steamers from San Francisco and Panama. Chinese go there from San Francisco and there is no Chinese quarter in Mazatlan, but they scatter throughout the city, which is devoid of sewerage or sanitary provisions. Panama has no plague and has now refused its harbor to a ship from San Francisco. The other theory as to the infection of Mazatlan is that it came by ships from the Orient. This is said to be possible, although such ships rarely stop at Mazatlan.

CANADA.

Personal.—Dr. W. H. Drummond, Montreal, was entertained by the Calumet Club of New York, January 17, and subsequently dined with President Roosevelt at Washington, D. C.

Vital Statistics in Ottawa.—In 1902 there were recorded in the capital of the Dominion 1,638 births, 571 marriages and 1,190 deaths. The natural increase in population was 448. The city clerk reports a decided improvement in the registering of births.

Smallpox Outbreak on Indian Reserve.—Smallpox is rampant among the Indians on the Tyendenaga Reserve, near Belleville, Ontario, thirteen cases having been reported during the past few days. The reserve has been strictly quarantined and patrolled, while the patients have been carefully isolated.

The Vancouver (B. C.) Hospital reports for December 51 patients admitted and 51 discharged cured; 4 died, and there remained in the hospital, December 31, 46 patients, 36 males and 10 females. The Canadian Pacific Railway has subscribed $200 per annum to the maintenance fund. The total subscriptions received in 1902 amounted to $18,000. Dr. McGuigan was appointed one of the visiting directors for January.

Laval Students Banquet.—The medical students of the University of Laval, Montreal, held their annual dinner January 17. Sir William Hingston replied to the toast to "Our Professors," pointing out the necessity of medical practitioners specially qualifying themselves to meet emergencies, instancing the cases of King Edward and President McKinley, when the eyes of the whole world were on the medical profession.

Mortuary Statistics in St. John.—The deaths in St. John, N. B., for 1902, numbered 706. Infectious diseases for the year

were as follows: Diphtheria, 75 cases, with 12 deaths; scarlet fever, 108 cases, 1 death; typhoid fever, 21 cases, 7 deaths; measles, 9 cases, no deaths; smallpox, 6 cases, no deaths. Tuberculosis of the lungs amounted to 82 cases. Of the total number who died, 555 belonged to Canada; 149 foreign; 2 not stated.

Victoria's (B.C.) Health.—The general health of the city of Victoria during the past twelve months has been good, there being at no time a tendency to an outbreak or epidemic of contagious or infectious diseases. In all there were reported 83 cases of diphtheria, with three deaths and 48 cases of scarlet fever, with no mortality. There was only one case of smallpox, and prompt measures controlled any chance of an outbreak. The system of boxdrains is said to be the cause of the large proportion of cases of diphtheria. It is worthy of note that the death rate of 12.33 for 1901 has decreased to 10.09 for 1902.

Canadian Quarantine Laws.—Representatives of the Montreal steamship companies waited on the Minister of Agriculture at Ottawa, January 21, to ask for changes in the quarantine laws. They assert that there is an undue detention of vessels and passengers on the St. Lawrence, and that there is far more promptitude shown in releasing vessels and passengers at New York. The minister pointed out that the regulations on the St. Lawrence and at New York are identical. He promised to ascertain how the quarantine law is administered at New York, and that, if improvements could be applied to the Canadian system without endangering the public health, it would be done.

FOREIGN.

Prize for Schleich.—The Würzburg University has awarded the Rinecker prize to the Berlin surgeon and professor K. L. Schleich, as a token of appreciation of his method of local infiltration anesthesia.

Koch on a Mission to Africa.—Robert Koch, accompanied by Neufeld and Kleine, all of the Berlin Institute for Infectious Diseases, have left for a protracted stay at Rhodesia to study the cattle plagues.

Fatal London Streets.—Of 90 deaths in London from other than natural causes last week 1 was from homicide, 9 suicide and 80 from accidents or carelessness. About 4,000 persons, in round numbers, are killed each year in the streets. This number exceeds the total number of soldiers slain in battle in the Boer war.

Insane Women Die in Fire.—The annex of the Colney Hatch Insane Asylum, six miles north of London, burned January 27 before daylight, and 54 women inmates died. The buildings are called fire-traps, being built of wood and without sufficient exits. Heroic work by the attendants prevented a larger loss. There were 600 women patients in the entire asylum.

Bavaria and Compulsory Sanitation.—A petition from the "Nature healers" recently presented to the Bavarian parliament asked for the suppression of all medical forcible interference on human beings for purposes of diagnosis, treatment or immunization. It was referred to a committee which presented a unanimously favorable report. The local medical journal comments that the action of the committee is a sad sign of the times, but one whose significance should not be depreciated.

Physicians Refuse Unscientific Association.—The twenty-eight physicians under contract with a certain large sick benefit society at Gera, Germany, all resigned when a "Nature healer" was appointed a member of the medical staff on the same terms as the rest. The Leipsic Medical Union has resolved to sustain them in their action and has issued an appeal stating how the Gera colleagues are battling for the honor of the profession, and warning all medical men to refrain from serving the said benefit society under any conditions whatever, until the matter is satisfactorily arranged.

Esmarch's eightieth birthday was celebrated with much ceremony January 9, with congratulations from scientific societies and members of the profession in all countries. His name is connected not only with military and other surgery, but with the organization of Samaritaner or first aid relief system in city and country. His pamphlet on "First Aid in Emergencies" has been translated into twenty-five languages. Esmarch married the aunt of the present emperor of Germany, and has been profusely decorated with honors and titles. He is the son of a physician at Toenning, and has been privat docent and professor of surgery at Kiel since 1859. He bears his eighty years lightly and is in vigorous health.

LONDON LETTER.

Tetanus Deaths in Antiplague Inoculation in India.

An unfortunate, and so far unexplained, mishap in the antiplague inoculation in the Punjab has occurred. The anticipated supply of serum was not forthcoming and a change was made in the method of its preparation. Notwithstanding this, 120,000 people were voluntarily inoculated during the month of October. It soon became apparent that the fluid supplied was not free from contamination, and some of it had to be rejected. A few cases of death occurred, apparently from its use. Then at Mulkowal 17 persons were found suffering from tetanus and died. The government will liberally compensate the families. All inoculation was then stopped. The original method will be resumed and the old serum is now being prepared. The plague mortality throughout India continues to increase. For the week ending December 6 12,400 deaths were recorded, as against 12,039 for the previous week, and 8,878 in the corresponding week of last year.

The Health of London.

Dr. S. F. Murphy, medical officer of the London County Council, has just presented his annual report on the health of London for the year 1901, in the form of a somewhat bulky volume. The estimated population of the "administrative county of London" in the middle of 1901 was roughly four and a half millions. The steady decrease in the English birth rate in recent years, which has been already referred to in THE JOURNAL, is once more exemplified. The birth rate was 29 per 1,000—the lowest ever recorded. The death rate was 17.1, which is lower than that of the other great towns—Liverpool, Birmingham, Manchester, etc. The death-rate of children under the age of one year was at the rate of 148 per 1,000 births—a lower mortality again than that of the other great towns. The annual zymotic death rate was 2.22 per 1,000. The deaths from smallpox numbered 229, being at the rate of .051 per 1,000. The number of cases of smallpox was 1,700, or a case rate of .375 per 1,000 persons living. In spite of the existence of the epidemic of smallpox in the second half of the year the death rate from that disease was lower than in Paris, Brussels, St. Petersburg, Vienna and New York in the period 1891-1900, and in Paris and New York in 1901. The number of deaths from cancer was 4,203, the corrected annual average for the preceding 10 years was 3,843—showing the tendency to increase of this dire malady.

Tuberculosis of the Esophagus.

At the Pathological Society Dr. F. C. Shrubsall and Dr. W. T. Mullings showed a specimen of this condition, which is so rare that no case has ever been described in the British Isles. The specimen was from a man aged 50, who was admitted to hospital with hydropneumothorax. Dysphagia came on suddenly a few days before death, and was relieved only by swallowing a solution of cocain. There was no evidence of pharyngeal ulceration, but early tuberculosis of the larynx was discovered. At the necropsy tuberculosis of the lungs, intestines, right testicle, trachea and bronchi were found. The bronchial and mediastinal glands showed no macroscopic evidence of tuberculosis. In the middle portion of the esophagus was extensive ulceration over a length of 3½ in., the individual ulcers being oval, with their long axis in the long axis of the tube. Below this were a few scattered ulcers. Microscopically typical tubercles with giant cells and tubercle bacilli were demonstrated.

Outbreak of Smallpox in Liverpool.

Until last year Liverpool had enjoyed a long respite from smallpox. Now the disease is rife in the city. During the last week of 1902 there were 74 fresh cases, and on December 31 26 additional cases were notified, making upward of 200 cases. Fifty fresh cases have been reported within the last week. Revaccination is being strongly urged by the medical officer of health. Unfortunately, people in the first stage of the disease are moving about the city, carrying the germs of the disease with them in offices, tram cars, shops, etc.

Discovery of the New Parasite in the Gambia.

A report has been received from Dr. J. E. Dutton and Dr. Todd, the members of the tenth expedition of the Liverpool School of Tropical Medicine, which has been despatched to Gambia and French Senegal to study the new parasite which Dr. Dutton recently discovered in a patient under the care of Dr. Ford, the colonial surgeon of the Gambia. They have found the parasite again in a European and in several natives. The parasite has some resemblance to the tsetse fly, which causes such ravages among cattle in South Africa. Fortu-

nately, it is not so fatal to man. It produces a continuous feeling of illness, with occasional attacks of fever. The researches of the expedition are of importance, as probably many of the cases of West African fevers are due to this new germ. The expedition at present on the Gold Coast is, among other matters, studying the tsetse fly. Dr. Logan Taylor has procured a horse suffering from the disease. There are only two horses at present on the Gold Coast, and it is to one of these that Dr. Taylor refers. He has been instructed to investigate on the Gold Coast the new parasite in man discovered in the Gambia.

Outbreak of Ankylostomiasis in a Cornish Mine.

Dr. J. S. Haldane, F.R.S., has just reported to the government on an outbreak of ankylostomiasis in the Cornish mine at Dolcoath. This is the first outbreak recorded in England. At Dolcoath the patients have been transferred to surface employment or to another shaft, which has usually checked the disease. In England ankylostomiasis is peculiarly a miner's disease, because the low temperature of the outside air is unfavorable to the propagation of the ova of the worm. Dr. Haldane says that the prevention of the disease largely depends on the men themselves taking the proper precautions to prevent pollution of the mine and that unless proper arrangements are made in other mines and carried out by the men ankylostomiasis is likely to spread in England to coal as well as metalliferous mines.

Professor Lorenz in London.

At the City Orthopedic Hospital, before a distinguished audience of the leading surgeons of London, Professor Lorenz, aided by his assistant, Dr. Müller, performed his bloodless operation for the reduction of congenital dislocation of the hip in two cases. He then demonstrated his method of treating congenital club-foot. His remarks, which he gave in English, were frequently received with applause, and his reception was altogether most cordial. The proceedings were opened by Mr. Noble Smith, who, in introducing Professor Lorenz, said that a distinctly adverse expression of opinion on Professor Lorenz's operation had been recently given at the Clinical Society, but that it was the custom in England to give everyone a fair field. Professor Lorenz fully explained his method, which has recently been described in THE JOURNAL.

PARIS LETTER.

Radiography in the French Hospitals.

A committee composed of various physicians and members of the municipal council was formed last December with the object of studying the best means of furnishing the Paris hospitals with apparatus and rooms for radioscopy. At present if a surgeon of the Hotel Dieu wishes to have one of his patients radiographed, he has to make out a demand, which is given to the director, forwarded to the chief of laboratory at the Salpêtrière Hospital, who comes to the Hotel Dieu with all his instruments, and later sends the surgeon a proof. The subject was discussed at the municipal council and the proposition was rejected, a fact which will not prevent some physicians from installing the apparatus at their own expense, as, for instance, Variot has done at the Enfants' Malades Hospital.

Treatment of Boils by Iodin.

Dr. Gallois has found that a solution of 4 gm. iodin in 10 gm. acetone is very serviceable in the treatment of boils. Dr. Castillon prefers a solution containing one part of iodin to two of glycerin, as it is much less irritating. This solution is obtained by heating glycerin and iodin under pressure at a temperature of 120 or 150 degrees.

New Method of Finding the Tuberculous Bacillus.

Dr. André Jousset recommends a new method for finding the bacillus of Koch in certain morbid secretions, which applies more especially to fibrinous effusions of the pleura. It consists in liquefying the coagulum by means of an artificial gastric juice containing fluor, and centrifuging. In this manner all solid substances not attacked by the gastric juice, such as the bacillus, are assembled in the deposit and can be readily colored. By means of this technique, Dr. Jousset has been able to find the bacillus of Koch twenty times in twenty pleuritic effusions, six times in tuberculous peritonitis and twice in the blood of patients suffering from acute consumption. The same method has also been used by Dr. Besançon and Griffon, only instead of using gastric juice they employ solution of soda.

Correspondence.

Membership in the American Medical Association and the New York Profession.

CHICAGO, Jan. 23, 1903.

To the Editor:—I send herewith, for publication in THE JOURNAL, a copy of my reply to a letter received from a New York physician. It explains itself. I have purposely gone into details with the intention of publishing the matter. I have done so for the reason that I feel that there is a misunderstanding on the part of some of the members of the profession, especially in New York, as to the position held by the American Medical Association in regard to the conditions in that state.

Very truly yours,

FRANK BILLINGS.

CHICAGO, Jan. 20, 1903.

Dear Doctor:—Your letter of recent date to the Secretary of the American Medical Association, concerning your relations with that body, has been handed to me with the request that I reply.

In the letter you say that you wish to sever your relationship with the American Medical Association, because of the actions of the Association. You state that the conduct of the Association is narrow, that this is 1903, not 1880 or 1881, and that as long as the American Medical Association continues to make an unjust and particular target of the New York State Society, so long must you forego the pleasure of membership in it.

I am induced to make reply to this letter for the reason that you make the statement "the American Medical Association makes a target of the Medical Society of the State of New York," and that I may explain to you and to other members of the New York profession the present status of the American Medical Association and its relation to the profession of New York.

In the first place, I desire to state to you that this is 1903, and not 1880 or 1881, and I do not wish to discuss the issues of twenty-two years ago, but to take up the affairs of the American Medical Association and its objects since the plan of reorganization.

At St. Paul, in 1901, the Association adopted a plan of reorganization and a Constitution and By-laws which embodied the plan which will be pursued in the future in an attempt to organize the profession of the United States on a broader plan than has heretofore existed.

I shall not attempt to give you the Constitution and By-laws for you may read that document. Suffice it to say that one of the principles of reorganization is the formation of a county society in each county of each state, so far as practicable, the members of which shall form a state association, and that the members of the different state associations shall constitute the membership of the American Medical Association. The county society is the initial unit, and under this plan is the portal of entry to membership in both the state and national bodies. This plan embraces, of course, the principle that there shall be but one recognized county society in a county, and but one state association in a state in affiliation with the national organization.

The committee of the American Medical Association which formulated the plan of reorganization was continued and later formulated a "Constitution and By-laws for County Societies," and also one for state societies which agrees with the principles mentioned above and corresponds with the Constitution and By-laws of the American Medical Association.

Ten or more of the different states have since adopted the Constitution and By-laws recommended by the Committee on Reorganization, and many counties of the different states have adopted the Constitution and By-laws recommended by the committee. Reorganization is thus going on all over the country, to a greater degree than the most ardent supporter of the reorganization plan could have hoped, and the outlook now is that within a very few years the profession of the United States will be organized on the plan embodied in the Consti-

tution and By-laws of the St. Paul meeting and we shall be a united profession.

In almost every state of the Union there are physicians who have continued to be listed as members of the American Medical Association, although they are not members of the local society or of the state society in affiliation with the American Medical Association. These physicians are therefore not legal members of the American Medical Association. Furthermore, there was no inducement for them to become members of the affiliated bodies in the state in which they lived so long as they were carried on the list of members of the American Medical Association and enjoyed all the privileges of that body.

A committee was appointed at Saratoga to look up this matter of membership, which recommended that on or about Jan. 1, 1903, the Secretary of the American Medical Association should notify every physician in the different states who was not a legal member according to the Constitution and By-laws, that his name would be dropped from the list of members if he did not become a member of an affiliated society on or before March 1, 1903.

This action was not aimed at the physicians of the state of New York, but was intended (as indicated above) to correct an error where it existed in all of the states of the Union.

However, in New York state a worse condition prevailed than elsewhere for the reason that two state organizations have existed there since 1884.

As you know, the Medical Society of the State of New York ceased its affiliation with the American Medical Association in 1882 because of the existence of the Code of Ethics adopted by the Association in 1847.

Although the Association adopted a new Constitution and By-laws at St. Paul in 1901, it did not in any way alter the Code of Ethics, which was continued as the ethical expression of the Association. However, the sentiment apparently of the country in reference to the code was such that at the Saratoga meeting in 1902 a draft of a revised Code of Ethics was introduced to the House of Delegates and met with much favor in that body and from the members as a whole. A committee was appointed to present a revised code at the New Orleans meeting, and that document will be acted on by the House of Delegates in May of this year.

In February, 1902, the president of the Medical Society of the State of New York wrote to the president of the New York State Medical Association, informing him that the medical society, at its meeting held the latter part of January, 1902, had adopted a resolution that a committee of five be appointed to confer with a committee representing the New York State Medical Association for the purpose of formulating a plan which should have for its object the reorganization of the regular medical profession of the state of New York into one body, which body would be in affiliation with the American Medical Association. After considerable correspondence between the presidents of the two state medical bodies of New York, a committee of five from each was formed. From the Medical Society of the State of New York the committee was Drs. Henry L. Elsner, chairman, A. Jacobi, A. Van der Veer, A. M. Phelps and George Ryerson Fowler; from the New York State Medical Association: Drs. E. Elliott Harris, chairman, Frederick Holme Wiggin, Emil Mayer, Parker Syms and Wm. H. Biggam.

By correspondence and by conference these committees agreed on certain propositions which were signed by the chairman of each committee.

In brief, the propositions which were adopted were as follows:

First. There is an honest desire on the part of the members of the two state organizations to unite the regular medical profession of the state.

Second. That they organize by the legal union into a single state medical body, to be known as the Medical Society of the State of New York, of which all members in good standing in both organizations should be charter members.

Third. That the reconstituted medical body should be the representative in the state of the American Medical Association by virtue of the acceptance of the Constitution and By-laws of the American Medical Association.

At a meeting of both the committees, held April 18, 1902, the question of the manner of preparing the charter of the new organization was taken up, and the preamble and proposed charter which embodied the agreements above mentioned were read and adopted and signed by the chairman of each committee. (See the *New York State Journal of Medicine*, pp. 308 to 313 inclusive, November, 1902.)

At the joint conference of the committees held at the Academy of Medicine in New York City Oct. 3, 1902, the committee of the Medical Society of the State of New York stated that they could not recommend the acceptance by the state society of the By-laws of the American Medical Association containing Article XV. (Art. XV of the Constitution and By-laws, among other things, affirmed the Code of Ethics of the American Medical Association.)

At the Saratoga meeting the Constitution and By-laws were somewhat modified and, among other things, Article XV was omitted.

At the meeting of the New York State Medical Association in October, 1902, the committee of the association made its report concerning the result of its conference with the committee of the state society.

This was, in short, that the two committees had agreed that they would attempt to unite the regular profession of the State of New York into one body to be known as the Medical Society of the State of New York, of which all members of both societies in good standing should be charter members, and the reconstituted state medical body should be the representative in New York state of the American Medical Association by virtue of its acceptance of the Constitution and By-laws of the American Medical Association. This report of the committee was accepted with the expression of the New York State Medical Association of a sincere desire for a union.

In addition to this a resolution was adopted that the committee of the association should be continued for the purpose of co-operating with any committee from the Medical Society of the State of New York to secure a charter from the legislature during the session of 1903.

The resolution further stated that if the Medical Society of the State of New York should fail to approve of the plan of the union agreed on between the two committees, including the adoption of the Constitution and By-laws of the American Medical Association, in such time as would enable the proper committees to obtain a charter from the legislature in 1903, that the committee of the association should be discharged and the proposition for the union should be withdrawn.

This action of the association left its special committee on conference in abeyance until such time as the committee of the society or the society itself could agree in full to the propositions made in joint committee meeting.

This status of affairs has continued in New York since the date of the meeting of the joint committee on Oct. 3, 1902, or perhaps it would be better to say since the meeting of the New York State Medical Association later in October.

The Secretary of the Association, Dr. Geo. H. Simmons, and I had conferred concerning the effect of the notice which, as stated above, was to be sent by him to the physicians who were listed as members of the American Medical Association in the different states, but who were not legally members of the Association. As there were nearly one hundred and fifty of these in New York state, the greater number of whom were members of the Medical Society of the State of New York, it made the situation there of greater import than in any other state of the Union.

It therefore seemed wise to Dr. Simmons and to me that I, as President of the Association and as an outsider, should go to New York and, if possible, confer with the two committees for the purpose of hastening legal union of the two bodies. If this could be accomplished before the first of March all of the listed members could then become legal members of the Association; and if it could be accomplished before the first of January none of them would receive a notice from the Secretary as mentioned above.

Accordingly I communicated with the chairman of each committee, with the result that a meeting of a full membership of

each committee with me was held at 3 o'clock on Friday, December 19, at the Academy of Medicine in New York City.

The chairman of the committee of the New York State Medical Association stated to me that his committee was in abeyance by the action of the state association and could not discuss the question at issue, inasmuch as the propositions for a union had been made by the association and that the most of the propositions had been accepted by the committee of the society, and at this time awaited only the acceptance by the committee of the society of a signed agreement to accept the Constitution and By-laws of the American Medical Association. That if the Medical Society of the State of New York should accept the report of its committee of its society, including the agreement to acknowledge the Constitution and By-laws of the American Medical Association at its meeting in January, 1903, then the committee of the association would become active again and be ready to co-operate with a committee of the society to secure a charter and legalize the union of the regular profession under one society as mentioned above.

In the conference I found the gentlemen of the two committees kind and courteous, and the most cordial and kind consideration was shown to me and to the members of the two committees by each individual present.

I made a preliminary statement, in which I said that the committee of the state association, through its chairman, had indicated to me that his committee could not enter into a discussion of the propositions for union because they were in abeyance and also for the reason that the propositions had been accepted by the state association and required no further discussion from them as a committee.

I also outlined the status of conditions in New York, naming step by step the propositions which had been advanced and accepted by the two committees to the time of their last joint meeting on October 3. In addition to this, the statement was made of the acceptance by the state association of the propositions. I also stated that the object of the meeting was to confer about existing conditions in the state of New York, and that I hoped no discussion of the problems of 22 years ago would come up, as I felt there was nothing to be gained thereby.

Inasmuch as a discussion of the meaning of Article XV of the Constitution and By-laws had been questioned after it had been omitted from the Constitution in 1902, I made the statement that the omission of Article XV did not in any way alter the relation of the Code of 1847 to the American Medical Association. That without Article XV the code was as much a part of the Association as before.

In answer to my preliminary remarks, Dr. Henry L. Elsner, chairman of the committee of the society, made the following statement. I do not attempt to quote his exact words, but in brief he said:

First, That since the conference of the two committees, conditions had occurred which made the committee of the Medical Society of the State of New York alter its attitude in reference to the propositions made for a union of the two organizations into one legal body.

Second, That the committee of the society could not now agree to the proposition of the union on the basis of the abandonment of the charter of the Medical Society of the State of New York; that the charter of the society, granted in 1806, contained many valuable provisions which their legal advisor had informed the committee could not be secured, at the present date, from the legislature of the state. That the traditions of so old a society, in addition to its many privileges, should not be given up. That the society would be willing to receive the members of the association in good standing into its body in lieu of the members of the two societies becoming charter members in the proposed new society.

Third, That the society could not afford to amalgamate with the association in obtaining a new charter for the reason that the new body would assume necessarily the debts and obligations of each of the existing state bodies. That the financial condition of the association was such that the society could not afford to assume the risk of its debts.

Fourth, That the committee of the society was not willing to accept the Constitution and By-laws of the American Medical Association or to recommend its acceptance to the Medical Society of the State of New York with the understanding that the Code of Ethics of 1847 was still in existence.

I then made the additional statement that the status of the Code of Ethics differed only from that of 21 years ago in this: That at the St. Paul meeting in 1901, when the new Constitution and By-laws were adopted, the clause in the old Constitution and By-laws which made it necessary for every medical body affiliated with the Association to adopt the Code of Ethics was dropped. That since 1901, therefore, while the code existed it was not now necessary that a county or state society in affiliation with the American Medical Association should adopt the code. That such affiliated bodies could organize without a code at all or with a code differing from that of the American Medical Association. I stated that Illinois and Ohio had no code, and that Massachusetts and possibly one other state had a code of its own. That doubtless other states and county societies existed without a code or with a code differing from that of the American Medical Association. That it was, therefore, perfectly feasible for the two state medical bodies of New York to unite on the propositions made and agreed on at former conferences to secure a charter from the state legislature and to organize a body which should be the representative in the state of the American Medical Association without a code or with a code formulated to suit themselves. That if they did so unite before the meeting of the Association in New Orleans, their delegates—who would doubtless be men now representing both the society and the association—could go to New Orleans and help in formulating and adopting a revised code.

Dr. Jacobi, a member of the committee of the society, also spoke in substance as follows:

That he, as a member of the committee, would not agree to the propositions for a union so long as the present code of the Amedical Medical Association existed. That if a revised code, as was introduced at Saratoga, were adopted by the American Medical Association, it would be acceptable to him—as it doubtless would be to the other members of the state society—although it contained objectionable features.

But, said Dr. Jacobi, if the American Medical Association is now of the opinion that it should have a revised code, or if at the New Orleans meeting the old code is abrogated or a revised code is adopted, then the American Medical Association will confess that it was wrong and the Medical Society of the State of New York was right twenty-two years ago. That he would not consent to a union of the two bodies or become a member of the American Medical Association so long as the old code existed. That if at New Orleans a revised code, such as was introduced at Saratoga, were adopted, that by this act the American Medical Association would confess its error in the past and could in justice do no less than invite the Medical Society of the State of New York to become again the one affiliated state medical society in New York. That the state society would then be ready and willing to receive the regular members of the profession in the state of New York, including those of the association, as members of the Medical Society of the State of New York.

The committee of the association was in abeyance and had no answer to make to the statement of the committee of the society.

There was, therefore, nothing gained by the conference excepting this: That the position of the committee of the association and its members and of the committee of the society was made distinct and plain.

Before we separated I summed up the situation by the statement that the association, through its committee, had adopted certain propositions for a union such as are outlined in this letter. That the committee was in abeyance and would become active again provided the society would accept the propositions at a date early enough to enable the joint committee to secure a charter from the legislature of 1903. That the association had put this time limit on the society, not to force them to action, as I understood it, but so that if it was not accepted

by the society, the association could then go on at the earliest possible date and reorganize the profession of the state in the different counties as the recognized state body.

At this point a member of the committee (I think Dr. Jacobi) made the statement that the committee of the society did not desire the association to stand still, but would be pleased to have them go on and organize the profession of the state without reference whatever to the negotiations going on.

As to the society, I summed up the propositions as made above by Dr. Elsner as the status of that committee.

I also said that it seemed to me the only hope of the union of the two state bodies this year was to be accomplished on the following plan: That the committee of the society should make its report to the Medical Society of the State of New York at its January meeting and ask for further time to consider the propositions of the association. That inasmuch as the committee had unanimously agreed not to adopt the Constitution and By-laws of the American Medical Association now or as long as the Code of Ethics existed, that if at New Orleans the revised code was adopted and was acceptable to them, that they could then adopt the Constitution and By-laws and with it the revised code. That they could perhaps make provisions at the meeting of their society in January whereby an official body or committee could then accept, with power to act, the completed report of the committee for amalgamation of the two state bodies. That this act would make the committee of the association active and that together with the committee of the society they could then go on and secure a charter during this year.

This is a statement of the status of affairs in New York State made by an unprejudiced outsider and by one who has been and is most anxious that the profession of the Empire State should be united in one body representing the whole profession of the state in the American Medical Association.

The American Medical Association is most anxious to have the good men of the profession everywhere in its membership. And I want to repeat that no target is made of the members of the Medical Society of the State of New York. It is simply a question of adjustment of the differences between the members of the profession in New York and that they must themselves settle.

I am sure you and every other member of the Medical Society of the State of New York will find that the great body of members of the American Medical Association are desirous of having you back as members and that we are willing and desirous of helping you as far as we can. But the members of the Medical Society of the State of New York must come to the American Medical Association, and should not for a moment believe that the American Medical Association will go to them.

In conclusion it must be distinctly understood that the New York State Medical Association is the only affiliated state body in New York, and as such, the only one that the officers of the American Medical Association can recognize.

Believe me, Very sincerely yours,

FRANK BILLINGS,
President of the American Medical Association.

A Side Light on Ethics.

PHOENIX, ARIZ., Jan. 17, 1903.

To the Editor:—Referring to the communication of Dr. Gillmore in THE JOURNAL, January 3, "A Side Light on Ethics," I would like to say that the Eminent Consultant is not only responsible for the "bulldog tendency" of to-day, but also for the increase of the horde of medical Arabs who, finding it difficult to be honest with the profession or public, and live, scour the deserts and cities, seeking whom they may devour.

The Eminent Consultant of the species described by Dr. Gillmore is a reproach to the profession, and does more to bring discredit on the profession and break up professional unity, nullify professional organizations and destroy charity than do the fakers and medical parasites.

I would submit as a remedy for this disease one which, though it may seem heroic and in itself subversive of some of the tenets of the Code it is intended to preserve, at the same time might prove curative. Perilous diseases sometimes require heroic remedies, and a rule of conduct was never made that was intended to shield or protect the guilty.

The remedy that I would suggest is publicity, at least among properly constituted authorities. Neither the public nor the profession as a whole are so strabismic but that they are able to view things in their proper proportions if given a fair chance. The trouble is the medical code is so interwoven with mysteries of "Thou shalt not," and "Under my grace and guidance thou mayest," that no wonder the tender shoots in the medical profession are apt to become dwarfed and stunted.

The injury done Dr. Gillmore in a case cited might be reckoned from the commercial standpoint in the hundreds and thousands, but he has no recourse in the medical courts of law at present constituted.

There is an eminent surgeon living to-day in one of the principal cities of the country who outdoes Dr. Gillmore's Eminent Consultant. The case was this: A reputable physician, graduate of one of the best schools in the country, and who had, at the cost of the usual amount of time and hard work, fitted herself for the practice of surgery, came to the city in which the Eminent Consultant was a resident and practitioner. Being a stranger, Dr. Brown (this is an *ex-parte* statement) introduced herself and presented her credentials to the Eminent Consultant and asked him if he would accord her the grace of his presence, advice and assistance in a surgical procedure on a private patient of her's, the operation to be performed in one of the leading hospitals of the city. The Eminent Consultant, Dr. Black, consented to furnish all these elements of grace with the following proviso: Dr. Brown was to do the operation, assuming all the responsibility that goes with it, but in the case-book the record should read Drs. Black and Brown, and Dr. Black was to pocket two-thirds of the fee.

If this were not related by one credible witness, one of the parties in the case, it would hardly be believable. Leaving out of consideration the matter of professional ethics and placing the case on the basis of ordinary commercial or business ethics, one would feel that a man who would treat a woman in that manner was hardly deserving of respect, much less of retaining his exalted position in the local profession. In this case Dr. Brown was helpless, and the operation was concluded on the terms proposed.

A friend of mine who was making a specialty of abdominal surgery in a small town neighboring Philadelphia, called in an Eminent Specialist residing in the latter city to consult with him in a desperate case, which proved to be general puerperal peritonitis with free pus throughout the abdominal cavity. The Eminent Consultant, after admitting to a member of the patient's family that my friend was properly qualified to perform such surgical procedure as the case might require, came down to the consultation armed with full paraphernalia for performance of same and with intent to do the operation. When informed that he had simply been called at the family's request as consultant he went off in a huff, and afterwards, as I have been informed, said some very harsh things reflecting on the ability of the operator and in regard to the termination of the case, which was death.

W. H. BURR.

State Boards of Registration.

Rhode Island.—Dr. Gardner T. Swarts, secretary, reports the Rhode Island State Board of Health to have held an examination at Providence, Jan. 2 and 3, 1903, in which the number of subjects was 7; questions, 70; percentage required to pass, 75; written examination; number examined, 9; passed, 7; failed, 2.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
194	R.	University of Vermont	1902	79.0
196	R.	University of Edinburgh	1891	88.2
198	R.	Coll. of Phys. and Surgs., Baltimore	1901	81.6
200	R.	College of Phys. and Surgs., Chicago	1890	79.4
199	R.	Tulane University	1896	85.4
201	R.	McGill University	1902	87.3
202	R.	Johns Hopkins University	1899	85.1

FAILED.

195	R.	Dartmouth Medical College	1900	69.1
197	H.	New York Homeopathic Med. College	1881	57.9

Utah.—The Utah State Board of Medical Examiners held an examination at Salt Lake City, Jan. 5 and 6, 1903. The secretary, Dr. R. W. Fisher, reports the number of subjects to be 10; questions, 70; percentage required to pass, 75; written examination; number examined, 5; passed, 3; failed, 2.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
1	R.	Jefferson Medical College.....	1901	84
2	R.	Illinois College of Medicine.....	1902	80
3	R.	University of Pennsylvania.....	1901	80

FAILED.

4	H.	American Medical Coll., St. Louis.	1890	64 1-7
5	R.	Coll. of Phys. and Surgs., St. Louis	1901	*62 5-7

* Re-examination.

Minnesota.—Dr. C. J. Ringnell, secretary of the Minnesota State Board of Medical Examiners, reports the examination held at St. Paul, Jan. 6-8, 1903, as follows: Subjects, 12; questions, 95; percentage, 75; written examination; examined, 19; passed, 10; failed, 9.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
2136	H.	University of Minnesota.....	1899	85.9
2144	R.	University of Minnesota.....	1880	83.1
2154	R.	Univ. of Michigan (1883), Jefferson.	1884	84.2
2140	R.	College of Phys. and Surgs., Chicago	1902	83.7
2142	R.	College of Phys. and Surgs., Chicago	1902	*80.5
2146	R.	Northwestern University, Chicago...	1902	88.1
2151	R.	Northwestern University, Chicago...	1902	84.7
2148	R.	Rush Medical College, Chicago.....	1901	84.8
2149	R.	Johns Hopkins Medical School.....	1901	85.8
2152	R.	Barnes Medical College, St. Louis...	1901	*82.8

FAILED.

2137	R.	University of Illinois.....	1902	†72.5
2143	R.	University of Illinois.....	1902	†69.7
2138	R.	Barnes Medical College, St. Louis...	1901	63.8
2145	R.	Barnes Medical College, St. Louis...	1902	65.7
2139	R.	Illinois Medical College, Chicago....	1902	70.9
2141	R.	College of P. and S., Wisconsin.....	1902	73.9
2147	R.	Kan. City Med. Coll. (1899), Barnes.	1900	71.8
2150	R.	Marion Sims Med. Coll., St. Louis...	1902	69.3
2153	H.	Hahnemann Med. Coll., Chicago.....	1866	66.0

* Second examination.
† Failed twice.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

IMPROVED TREATMENT OF EMPYEMA.

COLDWATER, MICH., Jan. 24, 1903.

To the Editor:—I see in THE JOURNAL of January 17 a comment on improved treatment of empyema, wherein you state "so far as we have seen this particular operation has not been recommended by any other operator."

I desire to say that I have used a similar method for several years past and am greatly pleased to learn that Dr. Ingals approves of the method. Enclosed find reprint in verification of priority of method. Respectfully, D. H. WOOD.

NOTE.—The reprint is from the Proceedings of the Michigan State Medical Society, 1889, and is in line with Dr. Ingals' suggestion. The latter, however, thinks that better results are obtained where two tubes are used instead of one.

MEDICAL PRACTICE IN CUBA.

LOUISVILLE, KY., Jan. 20, 1903.

To the Editor:—Will you kindly give me the requirements for practicing medicine in Cuba? X.

ANS.—To obtain permission to practice medicine in Cuba, one must first submit his diploma to the Superintendent of Public Instruction and undergo examination by a committee appointed by the University of Havana. The examination will have to be in Spanish, though an interpreter is allowed. The examinations include not only oral, but written theses and examining of cases.

Marriages.

HARRY S. SWOPE, M.D., Louisville, Ky., to Miss Bettie Pegg of Wheatley, Ky.

GEORGE HEUSTIS FONDE, M.D., to Miss Mary Crawford, both of Mobile, Ala., January 8.

ALDEN RAY DENNY, M.D., Galesburg, Ill., to Miss Susan T. Gould of Chicago, January 7.

OWEN W. GRUBBS, M.D., to Miss Florence Baughman, both of Harrison, Ohio, January 6.

WILLIAM V. BRYANT, M.D., Madison, Wis., to Miss Franc C. Taylor of Chicago, January 8.

VAN A. STILLEY, M.D., Benton, Ky., to Miss Mae Coleman of Princeton, Ky., January 15.

JOHN WEST BENTON, M.D., Ogdensburg, N. Y., to Miss Harriet Egert, in London, England.

JOHN A. PRINCE, M.D., Springfield, Ill., to Miss Eva Cross of Mechanicsburg, Ill., January 14.

ROLLIN P. COLLINS, M.D., Bishopville, Md., to Miss Nellie Cannon of Frankford, Pa., January 15.

GUS A. BACHMANN, M.D., Dorr, Mich., to Miss Bertha Leow of Burnips Corners, Mich., January 21.

PAUL STAFFORD MITCHELL, M.D., Iola, Kan., to Miss Grace Jaquess of Hammond, Ill., Dec. 25, 1902.

WILLIAM ELLERY JENNINGS, M.D., to Mrs. Marie Taggart Ropes, both of Brooklyn, N. Y., January 6.

VACLAV PODSTATA, M.D., Kankakee, Ill., to Miss Mary Graham Porter, at Lawton, Okla., January 12.

EDWARD WEBBER, M.D., Sebewaing, Mich., to Miss Clara Rosina Foerster of Ann Arbor, Mich., January 14.

Deaths.

Edward T. Dickerman, M.D., one of the most promising young physicians of Chicago, died at the residence of his mother in Springfield, Ill., January 23, from pneumonia, aged 35. He was born in Jacksonville, Ill., Aug. 4, 1867, began his medical studies in Chicago Medical College in 1887, and was graduated from that institution in 1890. He gained an interneship in Mercy Hospital, and served acceptably in that position. At the conclusion of his term of service he continued his studies in Europe, devoting his attention especially to the ear, nose and throat. On his return to Chicago he commenced practice in this specialty, and speedily acquired a large practice. On January 17 he went to Springfield to operate, and on the next day had a chill and symptoms of pneumonia. The disease ran a rapid course, and despite the best and most affectionate care, he died five days later. He was a member of the American Medical Association, American Laryngological Association, Illinois State Medical Society, Chicago Medical Society, and the Physicians' Club, and a fellow of the Chicago Academy of Medicine. He held the positions of professor of laryngology at the Chicago Policlinic, and associate professor of otology, Rush Medical College, and was attending ear surgeon at the Illinois Charitable Eye and Ear Infirmary. His funeral at Springfield, January 25, was attended by a number of Chicago physicians, and the faculties of Rush Medical College and the Chicago Policlinic sent floral tributes. At the meeting of the Physicians' Club, January 26, Dr. Dickerman's death was formally announced, and expressions of regret and sympathy were adopted.

Eli H. Coover, M.D. Jefferson Medical College, Philadelphia, 1850, a member of the American Medical Association, Medical Society of the State of Pennsylvania, Dauphin County Medical Society, and founder and first president of the Harrisburg Academy of Medicine, died at his home in Harrisburg, Pa., after a long illness, January 13, aged 75. He was esteemed, honored and beloved as a physician. As a citizen he was public-spirited, and a few years ago presented a park to Harrisburg. At special meetings of the Harrisburg Academy of Medicine and of the Dauphin County Medical Society resolutions of eulogy and sorrow were passed, and the members attended the funeral in a body.

Anson Soverille Fraser, M.D. Faculty of Queen's University and Royal College of Physicians and Surgeons, Kingston, died at his home in Sarnia, Ont., from Bright's disease, Dec. 31, 1902, aged 56. He was one of the best-known and prominent physicians of Western Ontario; and from 1891 to 1899 was examiner for the Ontario Medical Council in physiology. He was largely instrumental in establishing the Sarnia General Hospital in 1896, and was president of the hospital board up to last November.

James M. Alexander, M.D. University of the State of Missouri, Columbia, 1886, died at his home in Anabel, Mo., from pleurisy, January 13, after an illness of several months, aged 40. At the meeting of the Macon County Medical Society in Macon, January 16, a committee was appointed to draft resolutions regarding the death of Dr. Alexander.

Susan R. Pray, M.D. Women's Medical College of the New York Infirmary, 1882, for 3 years a medical missionary in China, died at her home in Brooklyn, January 14, after an illness of two months, aged 45. She was a member of the Brooklyn Health Board for 13 years, and was a member of the American Medical Association.

Will C. Cundiff, M.D. Vanderbilt University, Nashville, Tenn., 1900, died at his home in Somerset, Ky., from tuberculosis, January 6. At a meeting of the Pulaski County Medical Society, January 8, a tribute to Dr. Cundiff's memory was adopted.

Robert H. Goldsmith, M.D. University of Maryland, Baltimore, 1852, some-time physician to Bayview Hospital and president of the Alumni Association of the University of Maryland School of Medicine, died suddenly at Baltimore, January 13, aged 70.

Alexander T. Gordon, M.D. Medical College of Virginia, Richmond, 1858, surgeon of Pegram's Battalion, C. S. A., in the Civil War, died at his home near Lignum, Culpeper County, Va., January 14, after an illness of several years, aged 70.

George F. Motter, M.D. University of Nashville (Tenn.), 1864, who served during the Civil War as a surgeon in the Federal Army, died at his home in Taneytown, Md., from pneumonia, after an illness of two weeks, aged 60.

Frederick J. Bancroft, M.D. University of Buffalo, 1861, a surgeon in the Army during the Civil War, for the past 37 years a resident of Denver, died from heart disease at San Diego, Cal., January 16, aged 69.

John Allard Jeancon, M.R.C.S. Eng., 1854, surgeon of the Thirty-Second Indiana Volunteer Infantry in the Civil War, died at his home in Newport, Ky., January 13, from pneumonia, after a long illness, aged 74.

David C. Bryan, M.D. Central College of Physicians and Surgeons, Indianapolis, 1887, died from paralysis at his home in Hot Springs, Ark., January 14, after an illness of two months, aged 42.

George W. Harding, M.D. Rush Medical College, Chicago, 1900, a missionary of the American Board, died at his station in Ahmednagar, Bombay Presidency, India, January 14, of septicemia.

Isaac H. Shields, M.D. University of Pennsylvania, Philadelphia, 1860, who served throughout the Civil War, died from rheumatism at his home in Philadelphia, January 13, aged 64.

William H. Hildreth, M.D. Dartmouth Medical College, Hanover, N. H., 1868, died at his home in Newton Upper Falls, Mass., January 15, after a short illness, aged 65.

John H. Xelowski, M.D. College of Physicians, Chicago, 1900, of Oklahoma City, Okla., died at St. Mary's Hospital, Decatur, Ill., January 16, from heart disease.

John W. Hignutt, M.D. Jefferson Medical College, Philadelphia, 1856, who retired from practice in 1893, died at his home in Hickman, Del., January 12, aged 73.

Thomas B. Bush, M.D. Atlanta (Ga.) Medical College, 1894, died at his home in Lawrenceville, Ga., January 11, after a long illness, from typhoid fever, aged 33.

George N. Gage, M.D. Boston University School of Medicine, 1877, died from consumption at his home in East Washington, N. H., January 10, aged 51.

George W. Howard, M.D. Medical College of Virginia, Richmond, 1863, died at his home in Vicksburg, Miss., January 11, after a long illness, aged 68.

Charles H. Hedges, M.D. Jefferson Medical College, Philadelphia, 1841, died at his home in Charlottesville, Va., January 12, after a long illness, aged 84.

Peter Root Everett, M.D. Jefferson Medical College, Philadelphia, 1856, died at his home in Cleveland, Ohio, January 13, after a short illness, aged 68.

Louis A. Burgess, M.D. Tulane University, New Orleans, 1856, died at his home in New Iberia, La., January 15, after a long illness, aged 72.

Walter F. Randolph, M.D. Rush Medical College, Chicago, 1870, of Bedford, Iowa, died at the home of his daughter in Chicago, January 4.

Charles B. Adams, M.D. University of Louisville (Ky.), 1898, of Vanceburg, Ky., died, January 14, at a hospital in Portsmouth, Ohio.

Richard S. Markell, M.D. McGill University, Montreal, 1867, died from apoplexy at his home in Cloverdale, Cal., January 10.

Andrew J. Burrus, M.D., of Dallas, Texas, was struck by a passenger train, January 11, and instantly killed.

Henry W. Day, M.D., registrar of Hastings County, Ont., died at Belleville, January 10, aged 71.

Deaths Abroad.

Samuel Fenwick, M.D., F.R.C.P., the well-known writer on gastric disorders, has died at the age of 72. He was a Northumbrian, and was apprenticed to the Royal Infirmary, Newcastle-on-Tyne. After obtaining the membership of the Royal College of Surgeons he soon acquired one of the largest practices in the northern counties. For some years he lectured at the University of Durham Medical School. Forty years ago he removed to London. He first became connected with the City of London Hospital for Diseases of the Chest. In 1868 he was appointed on the staff of the London Hospital, on which he remained until he retired in 1896. There he made his reputation as a teacher and clinician. Despite a large practice and his hospital duties, he found time to make several valuable scientific researches, the most important of which was, perhaps, the significance of the presence of sulphocyanid of potassium in the saliva in various diseases. His "Students' Guide to Medical Diagnosis" was popular with many generations of students, and in its time was recognized as the best manual to place in the hands of the student beginning to work in the wards. In teaching, Dr. Fenwick insisted on the importance of accuracy of observation and of the students recording what they saw as the best way of becoming good diagnosticians. He wrote: "A number of well-recorded cases is invaluable, and forms the best practice of physic for your future reference and guidance." In 1879 he published "Outlines of Medical Treatment," which in a few years passed through four editions. As a writer on digestive maladies he made his reputation. He wrote the article on diseases of the stomach in the first edition of Quain's *Medicine.* During the last four years he was preparing a series of monographs on diseases of the stomach and completed the first two, which dealt with "ulcer" and "tumor."

Dr. Panas, the well-known ophthalmologist and surgeon of Paris, at one time president of the Académie de Médecine. He was a Greek, born in the Ionian Isles in 1831, but was educated in France, and became interne, demonstrator of anatomy, prosector, then professor agrégé and surgeon to the hospitals, and was finally appointed in 1879 to the newly-organized chair of ophthalmology. There are few questions in ophthalmology to which he has not brought some important contribution. His name is particularly connected with his method of tenotomy, his operations for ptosis, strabismus, cataract and neoplasms of the eye, and his studies on interstitial keratitis and glaucoma. His Manual of Ophthalmology is a classic. He was "chef de service" at the Saint Louis Hospital during the siege of Paris, and served also as volunteer surgeon in the barracks, while at the same time he was holding daily thronged eye clinics, and was studying German. During the Greco-Turkish war he organized and personally took charge of a relief ambulance. These experiences and his vast learning, his knowledge of the ancient classics and long training in anatomy and general surgery, his alert clinical sagacity, marvelous technic and imperturbed *sang froid,* combined to place him in the front rank.

Dr. H. Varnier of Paris, a prominent specialist and writer on obstetrics. His mother died in childbirth, and he devoted his life to reducing the mortality from this cause. He published, among other works, an atlas of pathologic obstetric anatomy in collaboration with Pinard, and in 1900 a fine illustrated manual on obstetrics in daily practice.

Dr. A. Kast, professor and director of the medical clinic at Breslau, aged 47, of a protracted renal affection.

Miscellany.

The Famous Plague Song.—Flexner remarks, as previously mentioned,[1] that the plague has gained admittance into our midst, and that it is the first time in history that the Western Continent has been invaded. He gives the words of the Augustin song which few realize dates from the great plague epidemic in Europe centuries ago. Augustin was a wandering minstrel, whose occupation was interrupted by the prevalence of the plague, and his plaint is a classic in German student

1. See THE JOURNAL, Dec. 6, p. 1485.

circles. The tune is familiar everywhere. The original is as follows:

Oh, du lieber Augustin,
's Geld ist hin, d'Freud' ist hin,
Oh, du lieber Augustin,
Alles ist hin!

Ach, und selbst das reiche Wien
Arm jetzt wie Augustin,
Seuftzt mit mir in gleichem Sinn,
Alles ist hin!

Jeden Tag war sonst ein Fest;
Und was jetzt? Pest, die Pest!
Nur ein grosses Leichennest,
Das ist der Rest!

Oh, du lieber Augustin,
Leg nur ins Grab dich hin,
Ach, du mein liebes Wien,
Alles ist hin!

This may be freely translated thus: "Oh, you dear Augustin. There is no money, there is no pleasure. Everything is gone! Even wealthy Vienna is as poor now as Augustin, and laments with me that everything has gone to pieces. Every day used to be a festival, but now, plague take it, the plague! Nothing but a great nest of corpses! Oh you poor Augustin, go lie down in your grave. Alas, my beloved Vienna, the bottom has dropped out of everything!" Those familiar with Chicago will recognize in this the original of "Ach, du lieber Halsted Street," the local song concerning that notable thoroughfare.

Association News.

EXCURSION RATES—NEW ORLEANS MEETING.

Rules Governing Extension of Tickets.

SOUTHERN PASSENGER ASSOCIATION.

ATLANTA, GA., Jan. 22, 1903.

To the Editor:—Referring to previous correspondence in regard to reduced rate and arrangements for the above meeting in New Orleans in May, attached please find copy of Passenger Tariff Exc.-1670, which shows detailed information as to special agency extension arrangements, etc. It may help your attendance to give this feature a wide circulation, as I have no doubt many of the delegates to your meeting will wish to make side-trip excursions. Very respectfully,

JOSEPH RICHARDSON, Chairman.

Passenger Tariff No. Exc.-1670.

Supplementing Passenger Tariff No. Exc.-1646. (See THE JOURNAL, *Jan. 8 p. 46.)*

The rules and regulations herein published are the separate rules and regulations of each of the following individual carriers and its connections:

Illinois Central Railroad.
Louisville & Nashville Railroad.
New Orleans & Northeastern Railroad.
Yazoo & Mississippi Valley Railroad.

RULES AND REGULATIONS.

The final limit of all tickets sold at the rate published in Passenger Tariff No. Exc.-1646 will be ten (10) days from date of sale, but original purchasers of such tickets may secure an extension of this final limit by personally depositing their tickets with Joseph Richardson, Special Agent, Room 204, No. 204 Camp Street, New Orleans, between the hours of 8 a. m. and 8 p. m., not earlier than May 1, nor later than May 12, 1903, and on payment of fee of fifty cents per ticket at time of deposit, at which time a receipt reading as follows will be issued:

NEW ORLEANS, LA., ——, 1903.

On presentation of this receipt to the undersigned at room 204, No. 204 Camp St., New Orleans, La., between the hours of 8 a. m. and 8 p. m., on or before May 30, 1903, by the original purchaser (in person) of ticket deposited this date for extension and covered by this receipt, ticket so deposited will be returned to original purchaser with the final limit extended so as to enable the original purchaser to leave New Orleans, La., on the date said ticket is withdrawn from deposit and travel by continuous passage through to the original starting point, but in no case will such final limit be extended to reach original starting point beyond midnight of May 30, 1903.

Original purchaser of ticket must present this receipt in person. Embossed signature of Special Agent.

When the original purchaser is ready to resume his journey and withdraws his ticket from deposit the Special Agent will attach an extension paster. These extension pasters will be printed on the Perfect Safety Paper adopted as standard by the American Association of General Passenger Agents and bearing water mark consisting of a star and the letters AA-GP-TA. In placing his signature on the back of the extension pasters, the Special Agent will in all cases use a facsimile embossing stamp. JOSEPH RICHARDSON, Chairman.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The following letter is being sent to all physicians who are listed as members of the American Medical Association and who do not belong to an affiliated society in the state in which they live. The letter is published so that those interested may be informed, as it will be impossible to reach all by the first of March, the time specified in the resolutions. To save unnecessary correspondence the following information is given:

1. To retain membership in the American Medical Association it is obligatory that a physician be a member in good standing of the state society of the state in which he resides, or in one of its recognized branches. A physician is supposed to reside in the county in which he votes.

2. For the present an individual moving from one state to another is allowed two years in which to associate himself with the society into whose jurisdiction he has moved. In this case, however, he must keep in good standing in his old society.

3. Medical officers of the Army, of the Navy and of the Public Health and Marine-Hospital Service of the United States are not required to affiliate with a society to hold membership in the American Medical Association.

4. In the State of New York the New York State Medical Association and its branches are the only organizations recognized by the American Medical Association.

5. Any physician who is in doubt as to whether or not the society to which he belongs entitles him to membership in the American Medical Association may obtain the necessary information by writing to the secretary of his state (or territorial) association. If such society is affiliated with the state (or territorial) association, it is in affiliaton with the American Medical Association, otherwise not.

6. The requirements for membership in the American Medical Association are the same now as they have been in the past; the basic principle regarding membership, on which the Association was founded, as outlined above, is now, for the first time in many years, being enforced, and will continue to be enforced in the future.

FRANK BILLINGS, *President.*
GEORGE H. SIMMONS, *Secretary.*

The letter referred to above is as follows:

AMERICAN MEDICAL ASSOCIATION.
Office of the Secretary, 103 Dearborn Ave.

CHICAGO, Jan. 3, 1903.

DEAR DOCTOR:

Since the formation of the American Medical Association the fundamental principle has been that membership should depend on membership in an affiliated state or territorial association of the state or territory in which the individual resides, or in one of its subordinate branches. In the reorganization adopted at St. Paul, in 1901, this principle was emphasized, but not changed. For many years, however, this has not been enforced for the reason that no system of reporting or verification of membership under the old conditions was possible. The result has been that an individual might become a member of the American Medical Association while a member in good standing in an affiliated society, but later withdraw from the latter, or be dropped or expelled, and yet still remain a mem

ber of the American Medical Association. Hence, there are members of the American Medical Association from every state and territory who do not belong to their state or territorial society, or any of its branches. The plan of organization now going into effect will prevent this anomalous condition in the future.

Meanwhile it becomes necessary to ask each one who is on the membership list of the American Medical Association and who is not a member of his state association, or of one of its subordinate branches, to unite with such by March 1, 1903. This is in accordance with the following resolutions adopted by the House of Delegates of the American Medical Association, June 16, 1902:

Resolved: 1. That the Secretary of the Association shall complete the verification of the list of members on the plan already begun, and obtain, so far as possible, correct information from the members themselves and from other sources as to the qualification of every person who now claims membership in this Association.

2. That all those who now claim membership and who are not eligible according to our laws shall be notified by the Secretary of such fact, and that they must furnish satisfactory evidence of their qualification for membership as required by our laws on or before Jan. 1, 1903.

3. That not later than March 1, 1903, the Secretary is directed, after notification, to drop from the roll of members all who are not eligible to membership in this Association.

4. That the word "local" in line 9, Section 3, Chapter I, of the By-laws, shall be construed, in this connection, to apply to the state organization, or one of its recognized branches of the state in which the person holds his legal residence.

5. That a member of this Association removing from one county or state to another may continue to hold his membership in this Association for a period not to exceed two years, without joining an affiliated society in his new place of residence; provided, however, that during this time he retains his original membership in the county or state society from which he removed.

Section 3, Chapter I, of the By-laws of the American Medical Association, referred to in Resolution 4, is as follows:

SEC. 3.—No individual who shall be under sentence of expulsion or suspension from an affiliated society (whether a directly affiliated state or territorial society or an indirectly affiliated local society) of which he may have been a member, or whose name shall have been dropped from the rolls of the same, shall be received as a member or shall be allowed to continue as a member of this Association, until he shall have been relieved from said sentence or disability by such society; nor shall any person not a member of his local affiliated medical society, provided there be such a one, be eligible to membership or be allowed to continue as a member in the American Medical Association.

This circular letter is sent to each member of the American Medical Association whose name is not found on the membership list of his state or territorial association, or any of its branches, and is an official notification, in accordance with the above resolutions, that such member's name will be stricken from the roll of members of the American Medical Association, March 1, 1903, unless by that time he shows that he is entitled to such membership. GEORGE H. SIMMONS,

Secretary American Medical Association.

Societies.

New York Academy of Medicine, Surgical Section.—Dr. Robert T. Morris has been elected chairman, and Dr. Charles H. Peck, secretary.

Scott County (Iowa) Medical Society.—This society met at Davenport, Dec. 16, 1902, and adopted a new constitution and by-laws to conform to that suggested by the American Medical Association.

Kansas City (Mo.) Academy of Medicine.—On January 3, at the annual meeting of the academy, Dr. Charles B. Hardin was elected president; Dr. Jacob Block, vice-president; Dr. Joseph W. Sherer, secretary, and Dr. C. Lester Hall, treasurer.

Medico-Chirurgical Alumni.—The Alumni Association of the Medical Department of the Medico-Chirurgical College, Philadelphia, recently elected as president Dr. George W. Pfromm; secretary, Dr. Stillwell C. Burns, and treasurer, Dr. Emanuel S. Gans, all of Philadelphia.

Lancaster County (Neb.) Medical Society.—At the annual meeting of this society, held in Lincoln, Dec. 2, 1902, Dr. James L. Greene, Asylum, was elected president; Dr. A. L. Hoover, vice-president; Dr. H. Winnett Orr, Lincoln, secretary, and Dr. A. D. Wilkinson, Lincoln, treasurer.

Kalamazoo (Mich.) Academy of Medicine.—The annual meeting of the academy was held, January 6, at the Michigan Asylum, Kalamazoo. The following officers were elected: Dr. Herman Ostrander, Kalamazoo, president; Drs. Arthur P. Burroughs, Galesburg, and Ralph E. Balch, Kalamazoo, vice-presidents, and Dr. Delia P. Pierce, Kalamazoo, secretary.

Shiawassee County (Mich.) Medical Society.—This society held it second annual meeting at Owosso, January 6, and elected Dr. Dryden H. Lamb, Owosso, president; Dr. R. H. Scott, Laingsburg, vice-president, and Dr. Charles Shickle, Owosso, secretary-treasurer. Dr. Angus MacLean, Detroit, was the guest of honor and gave an address on appendicitis.

Marion County (W. Va.) Medical Society.—At a meeting held January 1, at Fairmont, Dr. David C. Coplin, Boothsville, was elected president; Dr. James J. Durrett, Fairmont, vice-president; Dr. James W. McDonald, Fairmont, secretary, and Dr. William H. Sands, Fairmont, treasurer. The constitution was so changed as to conform to that of the state society.

Berks County (Pa.) Medical Society.—At the annual meeting of this society in Reading, January 13, the following officers were elected: President, Dr. George Hetrich, Birdsboro; vice-presidents, Dr. James W. Keiser, Reading, and Samuel S. Hill, South Mountain; secretary, Daniel Longaker, Reading; corresponding secretary, Dr. Hiester Bucher, Reading, and treasurer, Dr. Irvin H. Hartman.

North Central Illinois Medical Society.—The twenty-ninth annual meeting of this society was held at Streator, Dec. 2, 1902. The following officers were elected: President, Dr. Jane Reid Keefer, Sterling; vice-presidents, Drs. Lucius G. Thompson Lacon and William O. Ensign, Rutland, and secretary and treasurer, Dr. George A. Dicus, Streator. The next meeting will be held in Ottawa.

Orange County (N. Y.) Medical Association.—At the regular meeting of this body at Middletown, Dec. 17, 1902, an amendment to the by-laws of the New York Medical Association was read and accepted by unanimous vote. The amendment provides that hereafter no initiation fee will be required of any one desiring membership. This will make the cost of membership in the county, state and national associations only $11, as against $16 last year.

Winona County (Minn.) Medical Society.—At the annual meeting of this society in Winona, January 6, the constitution recommended by the American Medical Association and the Minnesota State Medical Society for county organizations was adopted. Dr. George J. Tweedy, Winona, was elected president; Dr. Frederick H. Rollins, St. Charles, vice-president; Dr. James B. McGaughey, Winona, secretary, and Dr. William F. C. Heise, Winona, treasurer.

Baltimore Medical and Surgical Association.—The annual meeting of this society was held January 12. The following officers were elected for the ensuing year: President, Dr. Edward L. Whitney; vice-presidents, Drs. William P. E. Wyse, Pikesville, and Charles O'Donovan; secretary, Dr. Eugene L. Crutchfield, and treasurer, Dr. James M. Craighill. A banquet followed, at which addresses were made by the retiring president, Dr. J. I. Ingle, and the president-elect.

Minnesota State Sanitary Association.—A number of Minnesota physicians interested in sanitation and in the prevention of disease, met at St. Paul, Dec. 17, 1902, and organized this association. Dr. Henry M. Bracken, secretary of the State Board of Health, was elected president. Dr. Burnside Foster, St. Paul, in an address on "Some Problems of Preventive Medicine," advocated the establishment of a department of hygiene, and that the secretary of the department be a cabinet officer with supervision over all state and municipal health departments. The second day was devoted to tuberculosis. Dr. Henry M. Bracken opened the symposium with an address on the "Care of the Tuberculous" in which he emphasized the importance of early diagnosis, notification, and the establishment of state sanatoria. The committee on tuberculosis reported through Dr. H. Longstreet Taylor, St. Paul, which especially

condemned expectoration in public places and the maintenance of poorly-ventilated factories. Under the head of prophylaxis, Dr. Thomas S. Roberts, Minneapolis, gave kissing, and smoking infected pipes, cigars and cigarettes as leading etiologic factors. He advocated isolation of patients, legislative prevention of expectoration, and wet sweeping of streets. The following officers were elected: President, Dr. Burnside Foster, St. Paul; vice-presidents, W. B. Patton, St. Paul, and Dr. Edward D. Keyes, Winona; secretary, Dr. Emory H. Bayley, Lake City, and treasurer, Dr. J. Frank Corbett, Minneapolis.

EGYPTIAN MEDICAL CONGRESS.

First Congress held in Cairo, Egypt, Dec. 19-24, 1902.

(From our Special Correspondent.)

(Continued from page 263.)

Yellow Fever Not Propagated by Mosquitoes.

PROF. CAMILLO TERNI of the Institute of Hygiene, Messina, read a "Contribution to the Study of the Etiology of Yellow Fever." The researches around the etiology of yellow fever are at present directed with the supposition that that disease, like malaria, is propagated by a special kind of mosquito. The author has studied the question in the Hospital of St. Sebastiano in Rio Janeiro, as well as in the valley of Rio, which is justly considered as the most famous place for the yellow fever epidemics which make their appearance with more intensity every year from December to May. He comes to the conclusion that the theory recognizing the mosquito as the agent of propagation of the yellow fever has no positive foundation. He is of the opinion that yellow fever is a disease of a bacterial origin and the *Bacillus icteroides* has the major probability of being the specific agent of the infection. The author deduces his conviction especially from the fact that the organic juices as well as the gastric and intestinal contents filtered determine in animals symptoms and pathologic changes identical with those produced with the toxin of *B. icteroides*. He does not agree with Sanarelli's views, who supposes a larva as the medium, but thinks, on the contrary, that it is by the direct drinking of the infected water. The difficulty of isolation of the bacillus depends solely on the culture media, employed in warm climates to put in evidence the special characters. Using gelatin 10 per cent., exposing the cultures to a temperature ranging between 15 to 20 C., it is always possible to isolate the *Bacillus icteroides* from the vomitus as well as from the intestinal contents, and in this way a diagnosis is possible in the very initial cases which clinically are not yet definite. Exceptionally the *Bacillus icteroides* may be found in the blood, but it penetrates that fluid in the last period of the disease. It determines the malady by the toxins which it eliminates in the intestine, which toxins, when absorbed by means of the portal vein, cause the characteristic hepatic changes. Sometimes the renal changes are set up before, to which, in the gravest cases, the individual succumbs by uremia before the hepatic changes have time to take place.

Heart Diseases in Egypt.

PROF. V. DE SEMO, Alexandria, asks if heart diseases in Egypt have any special seat or particular mortalities which might differentiate them in their manifestations from those of Europe. He indicates two main divisions in valvular and arterial cardiopathies. In his practice in Alexandria he was struck by the lack of frequency of valvular vices; this would be explained by the relative rarity of acute articular rheumatism in Egypt, that great factor of endocarditis and of consecutive valvular vices. On the other hand, one observes much more arterial cardiopathies than in Europe. The author enters into the developments of the causes of arteriosclerosis; causes which are discratic, infectious, toxic, which he affirms having met in Egypt more than anywhere else. Among the discratic causes he cites the diseases which cause a slowing of the nutrition so frequent here, like diabetes, polysarcia, phosphaturia, gravel, etc., and as powerful a cause of autointoxication, the state of lessened function of the liver. Alcohol and tobacco, which are greatly abused here, the custom of over-alimentation in the truest sense of the word among the wealthy people, the overstraining and emotions proper to commercial life, furnish a great factor to arteriosclerosis. He believes that the action of tobacco is counterbalanced in Egypt by the use and abuse of coffee. He points out the extreme frequency of reflex cardiac troubles, especially of gastric and hepatic origin, and he explains it by the frequency here of gastric dyspepsia, hepatic hyperemia, etc.

The Causation of Cancer and Its Treatment Without Operation.

DR. ROBERT BELL, consulting physician to the Glasgow Hospital for Women, concerning the many theories which have been adduced to explain the causation of cancer, says there may exist a modicum of truth in such theories, but its importance only exists in the fact that in certain circumstances the influence exerted by the various conditions of life mentioned produce an effect on certain idiosyncrasies, which tend to act prejudicially on the general health. Thus they are rendered prone to any disease, cancer among the number, but the latter only when more important forces are at work.

Were cancer due either to a parasite or a microbe would we find it unilateral, and would it not be invariably accompanied by a rise of temperature, which the presence of a microbe or a parasite imbedded in the tissues would naturally produce in consequence of the amount of irritation they would excite? He is convinced that cancer, or rather the elements of cancer, are present in every individual, whether it manifests its presence or not, because he believes the cancer entity is in its original state a normal cell, which, from a combination of circumstances, has become altered in character and assumed a new rate of existence. He thinks that whatever acts prejudicially on the general health is liable to become a factor in the production of cancer, such as marriage of blood relations, bad ventilation, constipation, excess in eating or drinking, worry, sedentary habits and the neglect of important hygienic precautions. In other words, every circumstance which tends to impoverish or militate against the general health predisposes to cancer.

It is a most important fact to bear in mind that cancer is essentially a disease of civilization. It is practically unknown among savages and among those who lead a simple, and what he would designate, a natural life, so that there is no reason to doubt for a moment that it is a preventable disease. We have a palpable example of what is essentially epithelioma, existing in a harmless, or at least a passive condition, in a wart. If this excrescence is not interfered with the probability is it will remain as a disagreeable disfigurement and nothing more, but if it is subjected to rough usage instead of a passive nodule we may have arising an active epitnelioma. The integrity of the epithelium depends largely on the unimpaired integrity of the thyroid. Not only are the mucous membranes and skin dependent on this organ to a large extent for the continuance of health, but, according to Charcot, Bonilly, Cuffier, Guinan and others, there is a direct physiologic relationship between the thyroid and uterus, which fact was well known to the ancients. According to Dr. F. Blumm, the function of the thyroid is to seize and render innocuous certain toxic substances which are produced in the intestine and absorbed into the blood. Such toxic substances are continually being absorbed in large quantities when constipation is persistent, especially when there has been over-indulgence in diet containing much nitrogenous material. These toxic substances prejudicially affect the functions of the thyroid and by accumulating in the blood give rise to pathologic changes of serious import. Any saccharomycetes happening to be present in the blood seize on this toxic material, transforming it into uric acid, and we have uricacidemia, which interferes seriously with cell metabolism, and in this, he maintains, we have one of the principal predisposing causes to cancer. The continuance of the entero-toxins also accounts for the cachexia which is generally coincident.

Concluding from experiments on animals, he says that in cases of cancer we should abstain from food containing much albuminous material and substitute plenty of milk. Probably the toxins which arise in milk and meat diet respectively differ in quantity rather than quality, and the possibility of neutralizing the effects of entero-toxins by administering thyroid extract is of great importance. Not only this, but we

must try in treating cancer to endeavor also to destroy the saccharomycetes, which are almost invariably present in cancerous subjects, for if their presence is permitted their effect on entero-toxins will be perpetuated; and the most potent destructive agent on them are the salicylates. At the same time, constipation, which permits of the absorption of entero-toxins, must receive our most serious attention. To put the matter in a nutshell, we must ascertain that the bowels are completely evacuated once in 24 hours, that the dietary be so modified as to be composed largely of milk food, that thyroid extract be administered in 5-grain doses three times a day, that along with this 10 to 15 grains of salicylate of soda or aspirin be given three times daily, and that the local affections be treated with a view to remove all sources of irritation, when, if the disease has not advanced too far, I am convinced it will yield to this treatment, which has frequently been the case in my hands.

He ends by giving the following as the predisposing cause to cancer:

1. Persistent and prolonged retention of feces containing an undue proportion of decomposing albuminous material, from which entero-toxins are derived, and by absorption, conveyed to the blood.

2. The blood thus contaminated produces a depraved condition of the nervous apparatus, thereby handicapping the functional activity of the various organs, interfering with cell metabolism, and eventually culminating in anemia in young persons or cachexia in the elder.

3. If the functions of the thyroid gland are at fault, these toxins, which otherwise could be neutralized, remain in a position capable of producing serious mischief.

4. If saccharomycetes be present in the blood this toxic material is liable to undergo chemical changes, resulting in the formation of uric acid, when uricacidemia will result.

5. The presence of the toxins in the blood, alone or combined, with uric acid, exert a pernicious influence on cellular structures, and confer on them a predisposition to take on a malignant metamorphosis.

6. Prolonged or repeated irritation of a part is liable to rouse into malignant activity cells which otherwise would have remained dormant.

7. The vitiated condition of the blood by prostrating the physiologic vitality of the various organs and cellular structures and paralyzing the *vis medicatrix naturæ* affords every facility for the new growth to establish its identity and increase its area at the expense of its environments.

Trachoma.

DR. VOILAS, Cairo, does not consider acute trachoma to exist; its evolution is always chronic and latent, having for its seat the cellular tissue subjacent to the conjunctiva. It is a disease of the connective tissue subconjunctival and not of the conjunctiva itself. Dr. Voilas believes in the existence of a micro-organism in trachoma which is the efficient cause of the affection.

DR. GUARINO, Cairo, has examined the conjunctivæ of some of the well-conserved Egyptian mummies, and concludes from his numerous examinations that trachoma existed from an immemorial time. He makes an anatomic study of trachoma and concludes that trachoma invades the lymphoid layers and engorges the lymphatic cells. The trachomatous bodies are isolated. They are formed of agglomerated corpuscles which represent a kind of small gland or lymphatic follicle analogous to Peyer's patches. They are glandiform neoformations covered with epithelium and scattered in the thickness of the mucosa and submucosa. It is consequently a slow infiltration in the mucosa of toxins eliminated by the various microbes which have elected their home in the conjunctival cul-de-sac. By irritating the lymphatic system, the terminal glands and the lymphatic cells these toxins provoke those productions made of neoformations which are called trachoma.

DR. ELOUI BEY, Cairo, gave a summary of the etiology and symptoma. Prophylactic measures must be taken against the dwellings and the medium in which the individual lives. The hygiene of houses, their ventilation, their disinfection even in the case of the existence of a granular patient; the cleanliness of the same and the watching about the care and medical attendance which must be given to him are the bases of the prophylactic measures which the author recognizes.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Arteriosclerosis.

Trunecek, in *Med. Press*, states that he has derived great benefit in the treatment of arteriosclerosis, from the use of the following combination administered subcutaneously:

B. Sodii sulphatis	gr. ii	13
Sodii chloridi	gr. xv	1
Sodii phosphatis	gr. iiss	15
Sodii carbonatis	gr. iiiss	20
Pot. sulphatis	gr. vjss	40
Aq. destil.	℥iiiss	105

M. Sig.: To be injected subcutaneously in the forearm.

He has used these injections, with success, in cases with pronounced changes in the aorta and other large vessels, associated with the subjective symptoms of cardiac asthma.

Professor Huchard of Paris, in the same journal, enumerates the following certain causes of arteriosclerosis: Gout, diabetes, alimentary toxins, plumbism, arthritis, chronic rheumatism, heredity and senility. And he classifies the following as doubtful causes: Alcoholism, tobacco, syphilis and mental overstrain. The treatment consists of hygiene and alimentary regimen. Milk diet should form an important part of the alimentation, while such liquids as tea, coffee and liquors of every kind should be withheld; food containing ptomains, such as fish, game, pork and tinned meat should not be advised. All liquids should be taken in moderation in order that plethora of the vascular system will not occur, which would cause arterial hypertension. Intestinal antiseptics should be prescribed. The author advises some of the following for this purpose: naphthol, benzonaphthol and charcoal. If constipation is present proper evacuants must be employed. Other medical treatment consists in employing those preparations that tend to promote vaso-dilatation. Among these he mentions nitroglycerin and sodium or potassium iodid in small doses.

As an antidyspneic and diuretic the following is of value:

B. Tinct. grindeliæ robustæ	℥i	30
Tinct. convallariæ	℥iiss	10
Tinct. scillæ	℥i	4

M. Sig.: Fifteen drops three times a day in water.

Dyspnea being the principal sign of arteriosclerosis, and being of alimentary origin of a toxic nature, he institutes the following regimen for five or six months:

1. For eight days absolute milk diet, three quarts daily.

2. For the following week a mixed diet consisting of eggs, fruits, grapes, small quantity of meal each day, and never in the evening. This should be repeated every month during the remainder of the period.

3. Suppression of game, cheese, tea, alcohol, and tobacco.

4. The administration of a purgative at proper intervals.

5. During the periods of mixed diet theobromin in 10 gr. doses should be prescribed two or three times.

6. During the period of pure milk diet potassium iodid should be given.

7. In cases of cardiac insufficiency moderate doses of digitalis are recommended.

Syphilis.

The following combination is recommended by Antony as an injection in the treatment of syphilis:

B. Hydrarg. biniodidi	gr. iss	00
Potassii iodidi	gr. ix	60
Sodii phos.	gr. xv	1
Aq. destil.		
Normal saline sol., āā	℥ii	60

M. Fiat solutio. Sig.: Sixteen drops by hypodermic injection daily.

Gastric Ulcer.

According to an abstract in *Med. Age*, Walko has obtained good results from the use of large doses of olive oil as well as in the treatment of hyperacidity by its lessening the irritability of the gastric mucous membrane. Its value as a food is mentioned because it is absolutely non-irritating, does not interfere with the motility of the stomach and is easily assimilated. In cases of gastrectasia decomposition does not take place, and the bowels become more regular, and acts as a protective when given on an empty stomach. The pain is greatly relieved, disappearing rapidly. According to the author, a tablespoonful should be given three times a day to begin with and gradually increase the dose to one and a half ounces. In case the act of swallowing causes nausea, it may be given through a stomach tube. This treatment may be continued for four or five days until the severer symptoms have passed, excluding all other nourishment per os, although rectal feeding may be continued. This line of treatment was successfully carried in several cases.

Acne.

L. Brocq, according to an abstract in *Amer. Med.*, recommends that patients should abstain from coffee, tea, alcoholics, pork, fish, tomatoes and uncooked food, and should not eat much butter or fatty food. The following is recommended by the author, to be taken before each meal:

℞. Sodii bicarb. ..... gr. ivss | 25
Calcined magnesiæ ..... gr. iii | 20
Pulv. cascaræ sagradæ ..... gr. ii | 12
Benzonaphthol ..... gr. ii | 12

M. Ft. cachet No. i. Sig.: One such before each meal.

The areas involved should be cleansed with absorbent cotton dipped in very hot water which has been boiled, or in the following:

℞. Bran ..... 3iiss | 10
Sodii bibor. ..... 3ii | 8
Aq. destil. ..... Oii | 500

M.

At night the parts may be bathed in camphor water preceded by a bath with naphthol soap. This should be followed by an ointment as follows:

℞. Beta-naphthol. ..... gr. ivss | 25
Resorcin
Saponis nigri, āā ..... gr. iii | 20
Cretæ prep. ..... gr. viiss | 50
Sulphuris prep. ..... gr. xxii | 1 40
Vaselini ..... gr. iii | 20

M. Sig.: To be applied locally.

And in the morning the following should be applied after first cleansing the parts:

℞. Sodii bibor. ..... 3iiss | 10
Camphorated etheris sulph. ..... 3x | 40
Aquæ rosæ ..... 3iiiss | 105
Aq. destil. ..... 3v | 150

M. Sig.: Apply locally.

Calcium Salts.

Boigey, in *Amer. Med.*, states that he has derived good results from the use of large doses of lime salts in the treatment of diabetes. Injections by hypodermoclysis of the glycerophosphate of calcium were employed, injecting 25 centigrams each time. This preparation was also given by the mouth in 2-gram doses. Great diminution in the amount of sugar eliminated was observed. According to the same periodical A. Bonelli has treated epilepsy by various preparations of calcium. Lime water, calcium carbonate, calcium bromid or the lactophosphate was used. In practically every case the administration of some one of these preparations was followed by a diminution in the severity and frequency of the attacks. In the experience of the author, these preparations show greater efficiency given by hypodermic injection than when given by the mouth. The injection is given in doses of 1 per cent. solution, the daily dose of the calcium chlorid ranging from 1/3 to 1 grain (.02-.06). A 1 to 30 solution of the calcium lactophosphate may be substituted in doses of 5 to 10 grains (.30-.60) daily. The number of the seizures are decidedly decreased in number.

Acute Bronchitis.

As an expectorant in acute bronchitis the following combination is useful:

℞. Syr. scillæ ..... 3i | 30
Ext. lobeliæ flu. ..... 3i | 4
Tinct. opii ..... 3iiss | 10
Ext. ipecac. flu. ..... gtt. xv | 1
Syr. pruni virg. ..... 3iss | 45
Syr. picis liq., q. s. ad ..... 3iv | 120

M. Sig.: One teaspoonful in water four times a day.

Sulphur for Dandruff.

The following combination is recommended by G. T. Jackson in *Trans. Amer. Dermat. Assoc.*:

℞. Sodii boratis ..... gr. xv | 1
Sulphuris precip. ..... 3iiiss | 14
Ung. aq. rosæ ..... 3i | 30
Ceræ albæ ..... 3iiiss | 14
Petrolati ..... 3iiss | 45

M. Fiat unguentum. Sig.: Apply locally once or twice a week.

The above does not have the odor of sulphur and does not render the hair too greasy, and at the same time checks the dandruff.

Method of Taking Castor Oil.

A simple method of taking castor oil, according to *Med. News*, without producing any nauseating effects, is to instruct the patient to wash out the mouth with water as hot as can be borne, and then swallow the oil, and follow this by rinsing out the mouth well with hot water. The first swallow of the water cleanses the mouth, makes the membranes hot, so that the oil does not stick and consequently slips down easily.

Affections of the Cornea.

The following is recommended by Fédorow in *Westnik Ophthal.* in conditions causing infiltrations of the cornea:

℞. Ichthyol. ..... gr. iss | 10
Cocainæ hydrochlor. ..... gr. iiss | 15
Vaselini ..... gr. lxxv | 5

M. Fiat unguentum. Sig.: Apply locally to the cornea.

Ergot in Chronic Bronchitis.

A. Martinet, according to *N. Y. Med. Jour.*, recommends ergot in certain forms of chronic bronchitis where the pulmonary catarrh is of long standing, etc. The combination used is as follows:

℞. Ext. hyoscyami ..... gr. 1/6 | 01
Quininæ sulph. ..... gr. 3/4 | 05
Ergotin ..... gr. iss | 09

M. Fiat pil. No. i. Sig.: One to be taken every two hours through the day, or six in the twenty-four hours.

M. Renaut recommends the use of the balsams, such as terpin, syrup of Canada balsam, or syrup of tolu, alternating with ergot, which may be combined with opium and hyoscyamus as follows:

℞. Ext. hyoscyami ..... gr. 1/6 | 01
Pulv. opii ..... gr. iss | 09
Ergotin ..... gr. ivss | 25
Cacao butter, q. s.

M. Ft. suppos. No. i. Sig.: To be used as a suppository.

Or for five days in the week he recommends the following:

℞. Ext. hyoscyami ..... gr. 1/6 | 01
Terpin ..... gr. iss | 09
Ergotin ..... gr. 3/4 | 05

M. Ft. pil. No. i.

Sig.: Two such pills at a dose, three times a day with hot water containing syrup of Tolu.

And the following is advised in chronic bronchitis, accompanying la grippe:

℞. Strych. sulph. ..... gr. 1/60 | 001
Ergotin ..... gr. 3/4 | 05
Quininæ sulph. ..... gr. iss | 10

M. Ft. pil. No. i. Sig.: One every two hours, except at night, or from six to eight in the twenty-four hours, to be taken in an infusion of hot sugar, water and syrup of Tolu and a teaspoonful of cognac.

Medicolegal.

Refusal of a Parent to Allow a Child Medicine.—Section 708 of the Penal Code of Georgia declares that "whoever shall torture, torment, deprive of necessary sustenance, mutilate, cruelly, unreasonably and maliciously beat or illtreat any child," etc., shall be guilty of a misdemeanor. The theory under which the accused was prosecuted, in what is now entitled the case of Justice vs. State, was that he was guilty of depriving his minor child of necessary sustenance, because, on account of a religious belief, he refused to procure medicine to be administered to any of his children when they were sick. It was not shown or attempted to be shown that the accused deprived his minor child of food. The specific allegation was that the accused, Sion Justice, did "unlawfully deprive of necessary sustenance one William Jordan Justice, a child five and a half years old; the said William Jordan Justice being ill, and the said Sion Justice failing and refusing to provide said child with necessary sustenance, the said Sion Justice being the father of said child." The trial resulted in a verdict of guilty. But the Supreme Court of Georgia reverses the judgment of the trial court, holding that evidence that a father refused to permit medicine to be administered to one of his minor children while sick does not support a conviction of the father for depriving such child of necessary sustenance, within the meaning of the above statute, which declares such deprivation to be an offense against the laws of the state. In the opinion of the Supreme Court, there is a very great difference between depriving a child of sustenance and refusing to permit medicine to be administered to him. Sustenance, it says, is "that which supports life; food, victuals, provisions"; while medicine is defined to be "any substance administered in the treatment of diseases; a remedial agent; a remedy; physic." The statute quoted, in the use of the word "sustenance," means that necessary food and drink which is sufficient to support life and maintain health. And evidence that, while a father fully provides for the wants of his children as to food, he refuses to permit them to take medicine, will not support a conviction under this statute. Nor does the Supreme Court know of any provision in the penal laws of the state enacted to meet a case of this character. It appears from the evidence, the Supreme Court goes on to say, that, under a belief characterized as a religious belief, the father conscientiously prohibits the use of any kind of medicine by any member of his family. From the standpoint which a majority of us occupy, this is a grave and serious error of judgment, and oftentimes would deprive those who are nearest and dearest to us of the means of alleviating pain and suffering.

Company's Liability—Surgeon's Duty—Second Operation.—The Supreme Court of Washington holds, in the case of Sawdey vs. the Spokane Falls & Northern Railway Company, that, if the company did contract, for a consideration, to treat its employes for any injury they might receive while in its employ, it was liable for the malpractice of the surgeon employed to treat the party suing. The company contended that it had undertaken to treat him gratuitously, and was liable only for failure to use ordinary care in selecting the surgeon, resting this contention first of all on the fact that he was injured after he had ceased his work for the day. But the court points out, among other things, that there was evidence tending to show that the company had never made it known that it claimed that its contract was only to treat its employes for injuries received by them in the course of their employment. It had always, so far as shown, acted to the contrary. It took the party suing to its hospital and entered on his treatment without informing him that its contract was limited, or that it claimed to be treating him gratuitously. Clearly, it ought not to be heard now to say, in order to escape liability for malpractice, that it was only extending to him a charity. Moreover, as all the surplus over and above the cost of treating its employes, derived from deductions from their wages, inured to its benefit, and it recognized no responsibility to account for it to any one, there was in this case both the element of contract and profit. The original injury was an oblique fracture in the lower third of the femur. To secure the result finally obtained the injured party was obliged to submit to a second operation, with its accompanying dangers, delay in recovery and consequent pain and suffering. This was claimed as an element of damage in the complaint; and, the court says, if it was made necessary by the maltreatment of the surgeon first in charge, it could be recovered for, no matter how successful the final operation was. The contract implied by law from the mere employment of a surgeon is that he will treat the injury he is employed to treat with ordinary diligence and skill. This requires that he bring to its treatment such a degree of skill and diligence as surgeons practicing in the same general neighborhood, in the same line of practice, ordinarily have and exercise in like cases. He must not experiment in his treatment of the injury. On the contrary, if he desires to avoid liability for his mistakes, he must treat it in some method recognized and approved by his profession as most likely to produce favorable results. If there be more than one of these applicable to the particular case in hand, he is not, of course, liable for an honest mistake of judgment in his selection of the method; but if bad results follow, and liability therefor is to be avoided, it must appear that the treatment applied was approved and recognized, as well as that it was pursued with ordinary diligence and skill. The fact that a second operation was necessary in this case to obtain the results finally obtained was some evidence that the original attempt was not performed with that degree of skill which a surgeon ordinarily brings to the treatment of such an injury. But the court thinks it well to say that the company did not, by its contract, undertake to effect a cure of the party's injury or restore his broken limb to its normal condition. It was in no wise responsible for the original injury, and it undertook only to bring to its treatment that ordinary diligence and skill which surgeons usually exercise in similar cases; and, if it did this, it was not responsible for the results. But if it did not so treat it, it was responsible only for the injury its failure to do so entailed.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

January 17.

1 *Drainage in Chronic Intestinal Catarrh: Its Importance and Technic. Norman Bridge.
2 *Diphtheria Antitoxin in the Infectious or Bacterial Bronchopneumonia of Childhood. Joseph O'Malley.
3 *The Etiology of Endocarditis, with Special Reference to Bacterial Agencies. Sanford Blum.
4 Therapy of Otitis Media Suppurativa Chronica. Lee Wallace Dean.
5 The Lorenz Operation, with Report of a Case. James K. Young.
6 A Contribution to Pernicious Anemia. O. E. Lademann.
7 A Comparison between Foreign and American Surgery. Nicholas Senn.

1. **Intestinal Catarrh.**—Bridge notes the importance of keeping the colon free from accumulations in this condition and that regular complete and harmless evacuations are more useful than any other measure in the prevention or treatment of chronic catarrh of the colon. It ought to be a cardinal doctrine that no other treatment is in order until these regular evacuations are provided for, that is, until free drainage is instituted. The evidences of accumulations are numerous in practice and produce uncomfortable symptoms, insomnia, general discomfort in the abdomen or back, nervous disturbance, diarrhea, etc. The obstacles may be enteroptosis, rigidity of the colon at times and the vertical posture of the body which prevents easy evacuation. The means to accomplish drainage should be employed regularly and not merely as the patient feels like it. Mild laxatives, cascara and salines, according as they agree best with the patient, psychic methods, enemas properly and regularly taken, best plain water or normal salt solution. Bridge also mentions the effect of position in giving the enema as assisting in its effectiveness. An abdominal bandage may be of some use in preventing enteroptosis and chilling or cold taking. The best form of bandage is one made of elastic material and to fit firmly about the lower part of the abdomen. All its good effects depend on its being kept in the

right position, making steady and firm pressure. If it exerts its chief force on the upper part of the abdomen it can do more harm than good, by aggravating the splanchnoptosis.

2. **Diphtheria Antitoxin in Bronchopneumonia.**—O'Malley has employed antidiphtheria serum in bronchopneumonia with excellent results, and reports three cases. He thinks we have in it a most valuable therapeutic agent for a class of cases otherwise beyond therapeutic aid, especially those cases of bronchopneumonia which so often cause a fatal complication in the bacterial diseases of childhood, such as measles, influenza, whooping cough and scarlet fever.

3. **Endocarditis.**—After a historical sketch, Blum reports a case of his own observation which he thinks is the only one of positive bacterial endocarditis reported in an infant, as well as the single known case of pyocyaneous endocarditis in which a mixed infection did not exist. He sums up that bacterial agencies are active in the causation of endocarditis, that their presence in the circulation is not alone a sufficient cause, there must be a predisposition, a place of least resistance, for it to secure a foothold.

Philadelphia Medical Journal.

January 17.

8 *The Anatomopathological Characteristic of Syphilis. J. Renaut.
9 *Two Cases of Perforation in Typhoid Fever, in One of Which an Operation Was Performed. James Hendrie Lloyd and Thomas L. Coley.
10 *Two Erroneous Surgical Decisions in Intestinal Perforation from Typhoid Fever. John B. Roberts.
11 A New Method of Hemo-alkalimetry and a new Hemo-alkalimeter. Arthur Dare.

8. **Syphilis.**—Renaut holds that syphilis is an infectious disease, all the stages of which are characterized by an attack on the blood vessels, especially affecting the intima. First a multitude of arterioles are affected as is seen in the roseola, in the skin. Deeper lesions follow, but these are slight. Its action then becomes localized to territories corresponding to the important arterial branches. The lesions are then better circumscribed and have more serious consequences. This endarteritis produces in the tissues a process of sclerosis lasting as long as the endarteritis does. This, generally considered, is the histopathologic character of syphilis. Nothing, however, authorizes the statement, he thinks, that sclerosis, once formed, becomes independent of the syphilis or remains unchanged; it is by no means incurable.

9 and 10. **Typhoid Perforation.**—The two cases reported by Lloyd and Coley illustrate, they think, the difficulties of determining the onset of perforation in the course of enteric fever. Roberts, whose diagnosis was unfavorable to operation, also points out the difficulties and discusses the cases.

New York Medical Journal.

January 17.

12 *An Address on Chemical Pathology; the Field of Greatest Promise in Pathological Research. G. W. McCaskey.
13 *Anterior Transplantation of the Round Ligaments for Displacements of the Uterus. Alexander Hugh Ferguson.
14 *Intestinal Indigestion and Its Relation to Arterial Sclerosis and Renal Disease. Leonard Weber.
15 *"The Mechanics of Flatfoot," Causative, Preventive, Curative. Edward A. Thompson.
16 *Topical Blood-letting as a Derivative and Revulsive Remedy in Congested and Inflamed Hemorrhoidal Blood Vessels and Tumors and in Other Affections. William Bodenhamer.

12. **Chemical Pathology.**—McCaskey's article deals with the subjects of immunity, etc.

13. **Uterine Displacements.**—Ferguson describes the operation of anterior fixation of the round ligaments, as he performs it, as follows:

> Place the patient in the Trendelenburg position. Make a median incision about three inches in length through the abdominal wall, the lower angle of which reaches the suprapubic fold, and dissect the fat and skin from the anterior sheath of the rectus muscle on either side of the abdominal incision, corresponding to its lower third. Pass two fingers of the left hand into the abdominal cavity on one side beneath the rectus muscle, already exposed anteriorly, to locate and protect the bladder; then make a stab wound through the rectus muscle in the direction of its fibers into the abdominal cavity, between the two fingers, an inch from the median incision and an inch and a half from the pubic bone. Before withdrawing the knife, pass an artery forceps alongside of it into the peritoneal cavity, and with it seize hold of the round ligament and a portion of the broad ligament beneath it, near the uterus. Now insert the suture which is to prevent bowel from slipping between the uterus and bladder, or, for the same purpose, suture the round ligament to the parietal peritoneum, as already mentioned. Then drag the proximal end of the round ligament through the rectus muscle with the forceps already attached to it, and sew it and the subjacent portion of broad ligament to the anterior sheath of the rectus muscle, leaving a stump about half an inch long between the parietal peritoneum and uterus.
>
> It must be remembered that the round ligament is a part of the broad ligament, and in this operation it is not separated from it.
>
> Deal with the other side in a similar manner, close the abdomen, and the operation is complete.

In suturing the peritoneum care must be taken not to leave any raw surfaces that may render adhesion of the viscera to the abdominal scar possible. This can be avoided by everting the cut edges of the peritoneum and sewing the normal peritoneum to the normal peritoneum behind the raw edges by a continuous suture of catgut. This operation is applicable to various displacements, anterior, posterior, anterior and posterior lateral and for prolapse, as well as for flexures affecting the patient's health and resisting treatment. It is also applicable when the abdomen is opened for other purposes and the uterus is displaced. The advantages claimed are easy performance, all the structures being visible, the uterus being left free in the abdominal cavity as no stitches or bands are attached to it. There is no interference with the physiologic functions of the organ, and it has a wider range of application than any operation known to him. The article is profusely illustrated.

14. **Intestinal Indigestion.**—Weber reports three cases which, he thinks, illustrate the connection between arteriosclerosis and nephritis and intestinal indigestion. He speaks particularly of the method of treatment adopted by him, the use of small doses of iodid of potash for arterial and renal sclerosis. He is convinced that the iodids given in relatively small doses three times daily, continued for months, and even years in this way, have the power to retard, modify and improve the subacute and chronic inflammatory processes in the connective tissue of parenchymatous organs like the kidneys, liver and lungs, and especially sclerotic disease of the arterial vessels. This, he thinks, is brought about by direct inhibition of the proliferation of the connective tissue and subsequent induction of disintegration and fatty metamorphosis of infiltrated corpuscular elements and the removal of the same. It is reasonable to assume that the drug acts through the lymph channels by direct action on the irritating substances, by stimulating the vasomotor nerves and increasing functional activity. The favorable influence of the iodids can be clinically demonstrated and is more decided in arterial sclerosis than in similar diseases of the parenchymatous organs. With a syphilitic history it is wise to give larger doses for awhile.

15. **Flat Foot.**—The causation of flat foot is given by Thompson as in rheumatic or gouty affections of the lower extremities in the majority of cases. Flat foot is frequently observed where there is swelling or edema, especially of the feet and ankles, and in all probability macreation of the tissues causing stretching or weakness of the structures. This form is particularly painful and characterized by sharp muscular spasm and constant pain of the foot and legs, more marked after rest, and especially on rising in the morning. In rickets the flattening of the arches is due to the laxity of the ligaments and tendons, and is also produced by knock-knees, which cause also a mechanical valgus. This form is usually not painful. Paralyses cause flat foot when they affect the calf or anterior leg muscles, by permitting stretching of the tendons and muscles and causing lack of support to the arch. The contraction of the opposing muscles aggravates the condition. This variety is also usually not painful. General muscular weakness causes simple flat foot by stretching of the tendons and is usually non-painful. Traumatism may be either direct or indirect. There may be tearing of ligaments, breaking down the arch, causing an exceedingly painful form of flat foot. Indirect traumatism includes cases which are caused by overweight and long standing. There is usually more or less pain with this form. There are also varieties due to disease or injury of the adjacent parts, such as tuberculous ankle-joint disease, tumors, Pott's fracture, etc. He describes the anatomy of the arch of the foot and the symptoms of the disease. The treatment is essentially mechanical. Mild cases can be relieved by adhesive plaster straps. The mechanism of reduction is described by him as follows:

Grasp the foot firmly and extend it sharply on the tarsus (this increases the space between the internal cuneiform and the astragalus). Then forcibly invert and adduct the foot and flex it again to 90 degrees, maintaining the adducted and inverted position. This will bring the scaphoid back into place and re-establish the relations of the arch. With the foot held in this position adhesive plaster straps are applied firmly, by attaching one end over the instep and bringing the other end over the outer side of the foot, under the sole, and upon the inner side of the foot, crossing over in front of the ankle joint and up around the calf in a spiral manner to just below the knee. A second, third and fourth strap are applied in the same manner. Short straps may be applied anteroposteriorly around the heel, crossing at the instep to hold the foot more firmly, but these are not essential. Plaster of Paris is applied in aggravated cases (in which an anæsthetic is used) in the same manner and after the same method of reduction. This dressing holds the foot in *varus*, or inversion. The adhesive plaster straps must, of course, be a temporary dressing or be renewed frequently. They are usually employed while steel insoles or braces are being made. I should like to call attention to the fact that ready-made insoles are impracticable, because each case differs from every other in the character of the deformity; therefore a plaster cast should be made of each foot, and cut out to correct the deformity, and the insole must be fitted to this cast.

Insoles, he says, are used in milder cases and should be worn for a long time until the arches are restored to their normal condition. He describes the forms of braces and suggests the proper use of the foot to prevent flat foot, educating the patient to use the heel and toe method in walking, the foot parallel rather than on diverging lines, in running or jumping to catch the weight on the front of the foot rather than on the heel. This point, with the added one of careful attention to "running over of the heels" will do much toward prevention. He also advises against the use of rubber overshoes, patent leather or enamel shoes or any waterproof footwear.

16. **Topical Blood Letting.**—Bodenhamer pleads for the use of small local blood letting and leeches as a partial substitute for venesection, in case of inflamed hemorrhoids, tumors, etc.

Boston Medical and Surgical Journal.

January 15.

17 *A Synopsis of Ten Weeks' Service on the Boston Floating Hospital. Robert W. Hastings.
18 A Case of Retinal Hemorrhage in a Patient of 73. Treatment by the Faradic Current. Complete Recovery. Hasket Derby.
19 *Vesical Appearances in Renal Suppuration. Edgar Garceau.
20 *The Treatment of Hay Fever. Lorenzo B. Lockard.
21 Poisoning of the Underwood Family by Wood Alcohol. E. G. Holtt.
22 Wood Alcohol Poisoning. S. W. Abbott.

17. **The Boston Floating Hospital.**—The methods of treating infants in the Boston Floating Hospital are described by Hastings, and some points especially noted. It was found that fresh, clean milk is better for babies than the older pasteurized or sterilized food. The sort of milk required was obtained from the Walker-Gordon dairy. Whey was not largely used, but probably may be, and the hospital authorities believe that the whey for sick babies should be made with essence of pepsin and whole milk, not skimmed. Most babies with gastrointestinal trouble were started on rice water, and it was found that they could be fed for two weeks on nothing else, and only lose one-half an ounce in weight. If there was a history of vomiting they were often started on the well-known albumin water or Jacobi's modification. For real exhaustion they used panopepton or beef juice and manufactured it themselves. In the diarrheal troubles of babies and some of the infections, the author insists on the importance of keeping flies away from them and the dejecta, and frequent cleansing of the hands and forearms of doctors and nurses with a solution of cyanid of mercury. Nearly all the very severe cases were treated with alcohol, and another means of stimulation was hyperdermoclysis with normal salt solution. Enteroclysis or irrigation of the lower bowel was performed nearly seven hundred times. The opinion, however, is growing that cases for this treatment should be carefully selected. They tried the lime water and creolin solution, the only one which seemed to have any special value. For persistent vomiting nothing proved better than lavage, using two pints of normal salt solution. A few drugs were tested. The fat-free tincture of digitalis was used in thirty-one cases with good effect. Tannalbin in doses of 5 to 10 grains every two to four hours was found to check bloody movements, which did not yield to any other treatment. Two or three relatively sure signs of approaching death were noted. one was brown vomitus, not containing blood or reacting to the hemin test. Another was the appearance of purpuric spots or streaks on the abdomen. A third fatal sign is a drop of the temperature to 95 F. or thereabouts. There was no great difficulty in getting the temperature back to normal, but the babies died just the same. The postmortems showed that nearly every case of severe bowel trouble was, pathologically, acute follicular ileocolitis, with very marked thickening of the lower bowel, swelling of the follicles and often some ulceration, and fatty degeneration of the liver. One case was met which justified the clinical term, gastroenteritis, all inflammation being in the stomach and upper duodenum. The heart muscle was usually not much affected, nor were the kidneys seriously involved.

19. **Vesical Appearances in Renal Suppuration.**—Garceau reports a case which he thinks is of interest, showing that a suppurating kidney may exist and the corresponding ureteral eminence not be at all diseased. That long-continued boracic acid vesical injections will, and do, reduce the intensity of the cystitis to almost nothing. The diagnosis of a suppurating kidney in all cases must be made by seeing purulent urine exuding from the corresponding ureteral orifice. So far as the lesions at that point being a positive sign, their absence is not conclusive that suppuration does not exist.

20. **Hay Fever.**—The preventive treatment of this condition consists in local and general measures, the former consisting in correction of abnormalities and cauterizing the mucosa that is likely to be most susceptible, while the general treatment must be directed to an increase in elimination and decrease in production of uric acid, to the correction of existing neuroses and the removal of constitutional or local abnormalities. Lockard finds three factors in the production of the disease: 1, neuroses; 2, some lesion or hypersensitive condition of the nasal membrane; 3, the inhalation of pollen or certain odors. He has tried the fluid extract of solidago and ambrosia in two or three cases with benefit in two. The remedy advised and used by Curtis being a secret one, it was not available. He considers adrenalin a remedy of great power for the nasal discomfort. In all cases he administers nitro-muriatic acid (not the dilute), three to five drops after meals and before retiring. The acid is almost a specific; in the great majority relief is almost immediate.

Medical Record, New York.

January 17.

23 *Some Questions in Heredity. A. Alexander Smith.
24 Methods of Quarantine Against Yellow Fever Adopted in Havana, Cuba, During the Year 1901. W. C. Gorgas.
25 *The Surgical Treatment of Puerperal Eclampsia and the Prevention of Convulsions. Douglas H. Stewart.
26 Hypertrophy of the Lymphoid Ring of the Pharynx and Its Surgical Treatment. H. Hoyle Hutts.
27 A Case of Sepsis Following an Attack of Osteomyelitis from a Slight Cause. Samuel Kohn.

23. **Heredity.**—Smith discusses the heredity of tuberculosis, admitting that, as a rule, it does not exist, but pointing out one or two obscure points which increase the difficulty in its estimation. Nearly everybody, moreover, has had some tuberculous ancestors. Gout and rheumatism are also discussed, and he notes the fact that in gouty cases there are liable to be direct exciting causes as well as more hereditary ones. The apprehension that many people feel, who have lost ancestors from cancer, that they will develop the disease seems to have some foundation in fact. Bronchial asthma is another disease in which we often find a parent or grandparent affected. In certain families there is a physical tendency to cardiac disease. Probably the same is true of renal troubles. Arteriosclerosis is another condition which has been of late years looked on as showing distinct hereditary tendencies, and he mentions also hemophilia as an instance of heredity. The relation of heredity to disorders and diseases of the nervous system is a very intricate as well as interesting subject. He does not go into it at any length, however, though he says that mental disease, perhaps more than any other, is hereditary. The alcohol habit may also be hereditary, either through deficient mental control or through special sensitiveness to the effect of the stimulant. In conclusion he mentions the tolerance which may be more or less influenced by heredity. Some persons do not succumb as readily as others to disease, being able to tolerate the condition for a much longer period. He mentions, also, racial peculiar-

ities, such as the resistance to tuberculosis by the Jews and their special liability to neuroses, diabetes, etc.

25. **Puerperal Eclampsia.**—The importance of getting the morbid matters out of the blood in threatened eclampsia is insisted on by Stewart, who believes in venesection in these cases to a certain extent at least. Frequent small blood-letting is not depressing, but removes a depressing poison and stimulates the blood-making organs. If convulsions have already taken place, his treatment differs a little from the ordinary. He uses carbonic acid gas in a vaginal capsule in the cul-de-sac—grs. x sodæ bicarb. and grs. v acid tartaric—which seems to soften the cervix and relieve dilating pains, repeating it every two hours or oftener, following an hour after insertion with a heaping teaspoonful of sodium bicarbonate and an even teaspoonful of lysol to a quart of water at 106 for a douche. When the cervix is large enough he uses a rubber bag dilator, hanging the artery forceps or a light weight to the stem. A light constant pull aids very much. When dilatation is complete and the pains are not strong, he then ruptures the membranes. He finds the introduction of forceps and leaving them alone for from one-quarter to a half-hour often very effective. As regards venesection, he says that the pulse is a guide to quantity and age to advisability. No case of early albuminuria in a robust woman should be allowed to pass the fifth month of pregnancy.

Medical News, New York.

January 17.

28 *The Medical Inspection of Schools: A Problem in Preventive Medicine. (To be continued.) Lewis S. Somers.
29 *The Etiology, Pathology and Symptomatology of Acute Suppuration of the Middle Ear. Edward B. Lench.
30 *Complications of Acute Middle-Ear Suppuration. James B. Clemens.
31 *The Treatment of Acute Suppuration of the Middle Ear. Wendell C. Phillips.
32 *The Etiology, Pathology and Symptomatology of Chronic Purulent Otitis Media. M. D. Lederman.
33 *Complications of Chronic Suppuration of the Middle Ear. Robert Lewis, Jr.
34 *The Treatment of Chronic Suppuration of the Middle Ear. James F. McKernon.

28. **The Medical Inspection of Schools.**—Somers' article obtained the second prize given by the Maltine Company. It is to be concluded.

29. **Acute Middle-Ear Suppuration.**—The predisposing causes are anything which conduces to chronic congestion of the upper air tract and tympanum. The general predisposing cause which without any lesion may render it susceptible to infection, may be any constitutional condition that lowers the vitality of the system. The middle ear is most commonly infected through the Eustachian tube, but it is not proven that the mere presence alone of infective germs is sufficient to cause disease. One of the most common etiologic factors is direct introduction by insufflation of water through the nares. This most commonly occurs as an accident during bathing, but may be induced by methods of treatment. Purulent inflammation involves always the upper portion of the tympanic cavity in contradistinction to acute catarrhal inflammation which is limited to the lower portion. Dench mentions the symptoms and remarks that the most important one in infants is a sudden increase in the temperature which may go up to 105 or 106. If such a change is observed without any apparent cause, a careful examination of the ear is suggested.

30. **Complications of Acute Middle-Ear Suppuration.**—The complications mentioned by Clemens were mastoid periostitis, inflammation of the mastoid cells, destruction of the soft parts, adenitis of the cervical and post-auricular glands, retropharyngeal abscess, intracranial inflammation, meningitis, cystitis, etc. In all the obscure diseases of children repeated and careful ear examination should never be neglected.

31. **Treatment of Acute Middle-Ear Suppuration.**—There are certain conditions which predispose to middle-ear disease: 1, the presence of adenoid tissue in the pharynx. Adenoid patients have running ears in a far larger proportion of cases than others. The ear complications of la grippe can generally be prevented by careful treatment of the nose at the very commencement and cleansing with detergent sprays; anything which renders the tissues clean and free from secretion. The patients should be cautioned to avoid violent blowing of the nose. Phillips says practitioners do not, as a rule, do enough to prevent such suppuration. If there is pain before the establishment of a discharge, the use of heat and narcotics should be relied on: hot water irrigations at a temperature of 100 to 110 and some form of anodyne internally. If the tympanic membrane is bulging and giving evidence of pus, a free incision should be made. It should be carried not only through the membrane proper, but upward through the attic region and well out on to the wall of the canal under strict antisepsis. It should be a routine procedure to make a microscopic examination of the pus as the nature of the micro-organism has an important bearing on the complications. He favors prompt operation in cases of early symptoms of mastoid involvement. The conclusions are given as follows:

1. In acute middle-ear suppuration early and free drainage is of the utmost importance; 2, patients should remain in bed until acute symptoms have passed; 3, free purgation (preferably by means of calomel) should be resorted to; 4, microscopical examinations of pus should be made; 5, local treatment should consist of cleanliness and free drainage; 6, proper internal medication should not be ignored; 7, prolonged attempts to abort suppuration of the mastoid cells are to be condemned; 8, early operative interference in mastoid suppuration prevents the more serious complications and gives far better hearing results; 9, uncomplicated cases of acute suppuration of the middle ear, when properly treated, always recover in from two days to three weeks; 10, the responsibility for preventive treatment must be largely assumed by the family practitioner. He should fully appreciate the importance of preventive treatment when caring for grippe, the exanthemata, or other infectious intranasal conditions, and also, the early and complete removal of diseased adenoid tissue.

32. **Chronic Purulent Otitis Media.**—The causes, symptoms and pathology of chronic otitis media are described by Lederman, who emphasizes the danger of chronic discharging ears.

33. **Complications of Chronic Otitis Media.**—Lewis first notices the local changes at the spot, bone necrosis, cholesteatoma, mastoiditis, polypi, etc., and later brain involvement, pachymeningitis, and general septicemia which may occur from disintegration of a thrombus. The vascular system and the lymphatics may both be routes of infection. The insidious advance of the disease is remarked. Brain abscesses have often been found to be the cause of death when no such lesion was suspected.

34. **Treatment of Chronic Middle-Ear Suppuration.**—McKernon describes the dry and wet treatment, the latter being the one ordinarily used, consisting in syringing the ear with bichlorid of mercury at 1 to 4,000 or 1 to 8,000; boric acid, 20 grains to the ounce of boiled water, carbolic acid solution of 1 or 2 per cent. strength, formalin or potassium permanganate. Normal saline solution or warm sterile water is all that is necessary in many cases. After the parts are cleansed he mentions the following as a good solution to further sterilize the parts, namely, equal parts of 1 to 1,000 bichlorid of mercury solution and absolute alcohol to which may be added 10 to 20 grains to the fluid ounce of boric acid. If granulations are present they may be destroyed by chemical agents, nitrate of silver or chromic acid. The parts to be cauterized should be cocainized to avoid pain. An alcohol, boric acid and bichlorid solution can be used at home by the patient after the discharge becomes less abundant, five to eight drops being placed in the ear morning and evening after the cavity has been cleansed. If perforation of the drum is on a level or higher than the short process of the malleus, with a small amount of thin serous secretion, thorough cleansing of the middle-ear by means of a middle-ear syringe, is indicated, injecting the sterile solution through the perforation until the cavity is cleansed, and then using an astringent solution of nitrate of silver, not stronger than 5 grains to the ounce. A preliminary solution of eucain or cocain will make it more comfortable. Stronger solutions may be used later, if required. Zinc chlorid has been employed as well as protargol. If the perforation in the drum is large he would not hesitate to use peroxid of hydrogen, but would prefer hydrozone. In case of very persistent discharge, with an area of exposed bone complicating a simpler condition, he has found carbolic acid of great value. The head is placed in a horizontal position and the canal partially filled with pure carbolic acid, allowed to remain about thirty seconds and then the canal syringed with pure alcohol. The complications

of mastoiditis, facial paralysis, etc., are mentioned in conclusion.

Cincinnati Lancet-Clinic.

January 17.

35 Ulceration of the Rectum. George J. Monroe.
36 Surgery of the Prostate, Pancreas and Diaphragm. (Continued.) B. Merrill Ricketts.

Pennsylvania Medical Journal, Pittsburg.

December, 1902.

37 *Address in Medicine: Reflections on State Medical Board Examinations and Interstate Reciprocity. Aloysius O. J. Kelly.
38 *Pericarditis as a Terminal Infection of Chronic Bright's Disease. Herman B. Allyn.
39 *A Contribution to the Study of Nephritis in Smallpox, Based on Analyses of Urine in 128 Cases. Wm. M. Welch and Jay F. Schamberg. Assisted by Holder C. Kirby and Russel R. Jones.
40 A Review of an Outbreak of Smallpox. Alex. R. Craig.
41 Recent Discoveries in the Domain of Etiology. D. H. Bergey.
42 Some Epidemics of Typhoid Fever Caused by Infected Water and Milk. I. C. Gable.

37. State Board Examinations.—Kelly criticises the questions of state board examinations while not depreciating their value to the profession in raising the standard of medical education, getting rid of bogus colleges, etc. He thinks there is still room for reform, that examinations should not be confined to merely written methods, but should be made practical. The candidate should be made to diagnose, and even operate and perform certain laboratory diagnostic work, etc. He thinks that reciprocity is a thing that ought to come and should be facilitated.

38. Pericarditis and Bright's Disease.—The occurrence of pericarditis in connection with Bright's disease has been noted by early observers, and since Taylor's publication in 1845 the importance of the complication has been realized. Allyn reviews the literature and theories and reports cases. The symptomatology differs from that of other forms, occurring as it does in the final stage of a disease, which can itself account for all the symptoms that may be present. It may be absolutely latent and painless to the end, and in many instances is only detected at autopsy. He calls attention to four distinct signs which are important: 1. Dulness in the first interspace to the right of the sternum, which has been present in every case that he has examined. 2. Fluoroscopic examination, which is very important. 3. Exploratory puncture, which he holds harmless if carried out with due aseptic precautions. 4. Pulsation of the vessels of the neck. The prognosis is practically always fatal; it only hastens an otherwise inevitable ending.

39. Nephritis in Smallpox.—From a study of 1,088 urinary examinations in 128 cases of smallpox, Welch and Schamberg find that albuminuria is more frequent in smallpox than is generally believed, being present in 65 per cent. of the cases examined. Tube casts were found in 45 per cent., warranting the assertion that albuminuria is the expression of structural change. In their experience mild and discrete cases have been accompanied by nephritis almost as often as cases with more profuse eruptions, suggesting the influence of smallpox poison in the kidney involvement. Repeated examinations are necessary to avoid misleading results. The clinical symptoms of variolous nephritis are usually mild and not as obvious as those of scarlatinal cases. Albumin may persist in the urine in minute quantities after convalescence and histologic examination of the kidneys indicates that this represents interstitial changes in the kidney. If it is true that the albuminuria accompanying infectious diseases is, in large part, the expression of a structural change in the kidneys, is it not probable that the damage thus done may, if unrecognized and uncared for, insidiously eventuate in chronic Bright's disease? The urine of patients convalescent from infectious disease should be carefully and repeatedly examined and measures taken accordingly.

Archives of Otology, New Rochelle, N.Y.

December, 1902.

43 Multiple Sinus Thrombosis; Cerebellar Abscess and Meningitis, Probably Originating from an Osteo-myelitis of the Sphenoid. Harold Wilson.
44 Contribution on Otogenous Disease of the Brain, Meninges and Venous Sinuses. Dr. Sturm and Dr. Suckstorff.
45 *The Use of the Rotatory Bur in the Treatment of Chronic Suppuration of the Middle Ear. Dr. Sturm.
46 *Vertigo. Rudolph Panse.

45. The Rotary Bur.—The use of the bur to smooth the bony cavity after radical mastoid operations, as suggested by Körner, is not as harmless as it appears. Heat generation may cause necrosis, and Körner and other former advocates have abandoned its use in dressing the bone in radical operations. Although still in use, its indications are limited, as when it becomes necessary in radical operation to open the vestibule or semicircular canals and in chronic cases where the pus production is limited to the attic and where removal of the ossicles fails to relieve the otorrhea. The lateral wall of the attic can readily be removed with the bur, thereby exposing the attic with its contents. It is also used in those cases where superficial necrotic areas of the bone are present on the inner wall or the floor of the tympanic cavity. The bur removes the necrosed tissue and the bone returns to its normal smooth condition. To avoid injury from heat it is well to stop the bur every few seconds, the interval being employed in mopping away blood. The bur used has a much slower action at the pole than at the equator, enabling the operator to proceed more cautiously when using the pole and to work faster while entering the attic, where the coarser part of the bur comes into play when working laterally. General anesthesia is dispensed with unless the attic is to be opened when it is required, but not in removing necrosed tissue. He reports cases of its use and speaks of the advantages of the method.

46. Vertigo.—Panse's article is a very extensive monograph on vertigo.

Bulletin of the Johns Hopkins Hospital, Baltimore.

January.

47 *The Relations between the Lymphatics and the Connective Tissue. W. G. MacCallum.
48 *The Accuracy of Certain Clinical Methods. Charles P. Emerson.
49 *Albuminous Expectoration Following Thoracentesis, with Report of a Case. Herbert W. Allen.
50 A Study of the Reticular Supporting Network in Malignant Neoplasms. Paul G. Woolley.

47. Lymphatics and the Connective Tissue.—From his study of the development of the lymphatics, MacCallum finds that the walls, though delicate and easily ruptured, have still a complete endothelial lining throughout, in appearance analogous to that of the blood vessels, and that the processes of their growth seem to be in every respect similar to those of the blood vessels, with the exception, perhaps, of the lack of considerable distending pressure.

48. Certain Clinical Methods.—Emerson has tested a number of clinical diagnostic methods, with special reference to their accuracy and availability, using several independent observations by different persons with the same instrument on the same case, and at the same time as far as possible. He does not recommend the Oliver hemocytometer for clinical work, but finds the hematocrit useful in determining the presence of lipemia, cholemia, hemoglobinemia, but not for counting the cells. The Thoma-Zeiss apparatus requires experience and practice. Expertness with it is readily lost, but otherwise it seems to be satisfactory. Of the hemoglobinometers, he speaks well of Miescher's modification of the Fleischl and of Gower's instrument when it is well made. The Dare instrument is a new hemoglobinometer, which promises to replace many others, but it has its weak points, the fragility of the pipette plates and the necessity of readings being made at once before blood coagulation, which sometimes means rapid work. The Talquist scale was not tested, but he thinks that the experienced eye can, perhaps, get better results with it than can be the inexperienced one with the Fleischl instrument. The various methods of gastric analysis are given. He thinks Congo red paper is an excellent indicator for free acid, not enough used. Gunzburg's test is the best for indicating nothing but free HCl. For urinary analysis, several methods are mentioned, and as for class work and the practitioner the Ludwig-Salkowski method of testing for uric acid is hardly practicable, the Folin modifications of the Hopkins method are the best. For the volumetric determination of the chlorids the Volhard and Falck method is one of the most satisfactory, and for phosphoric acid the method described by Neubauer and Vogel, that is, adding

to 50 c.c. of urine 5 c.c. of a solution of sodium acetate 100 gms. glacial acetic acid, 30 gms. in 1 liter of water. The urine is then kept at boiling point and the standard solution of uranium nitrate added till the end reaction is reached. The tests for sugar, albumin and urea are also mentioned. Fehling's method of titration of sugar seems to be the one that is perhaps the most satisfactory in training the beginner. The Esbach albuminometer and centrifuge method are not specially recommended as accurate. The Doremus tube, especially Hinds' modification, is well spoken of, and he thinks it can be employed by the nurse as well as the physician; in fact, the keeping of a urea chart, he thinks, will become part of the nurse's duty.

48. **Albuminous Expectoration.**—This general condition is discussed and cases reported. The general opinion seems to be that it is due to acute edema of the lung, and the author thinks that this agrees with the physical signs during life as well as postmortem results. Just how edema is produced is not entirely clear. It may be due to a form of coagulation in the minuter vessels, especially the veins, from sluggish circulation. Other theories, however, are advanced, but none of them seem to be exactly supported by all facts. Probably the explanation is to be sought in abnormal pathologic conditions found in fatal cases, such as cardiac insufficiency, adherent pericarditis, clots in the pulmonary vessels, etc.

American Journal of Obstetrics, New York.

December, 1902.

51 Perforating Ulcers of the Duodenum. John B. Murphy and J. M. Neff.
52 *Craniotomy. James D. Voorhees.
53 *Interpretation of the Histology of the Villi from Early Intra- and Extra-uterine Specimens; the Syncytium. Frank A. Stahl.
54 *Rupture of the Umbilical Cord. Herbert M. Stowe.
55 Puberty in the Girl. George W. Cook.
56 Leukemia in Childhood. J. R. Bromwell.
57 Diastasis of the Abdominal (Recti) Muscles. R. P. McReynolds.
58 *Carcinoma of the Cervix Uteri. L. H. Dunning.
59 Causes of Recurrence of Biliary Symptoms After Cholecystotomy. Charles S. Hamilton.
60 Management of Breech Presentations. William D. Porter.
61 *Pregnancy After the Removal of Both Ovaries. J. F. Baldwin.
62 *Condition of the Bladder After Hysteropexy. G. Kollscher.

52. **Craniotomy.**—The conclusions of Voorhees' article are:

1. That craniotomy is an operation of great usefulness, but one whose field has been narrowed to cases where the child is dead, except on occasions of grave emergency and where the mother's life would be jeopardized by a cutting operation. 2. That the operation of itself should be attended with practically no mortality in the hands of a careful operator. 3. That the cutting operations, especially Cesarean section, should be done more frequently in proper cases, inasmuch as the maternal mortality has been reduced almost to nothing in the improvement of the technic of these operations, and inasmuch as almost every baby can be saved.

53. **Histology of the Villi.**—Stahl's article is a study of the growth of villi in intra- and extra-uterine pregnancy. From his study he holds that the syncytium is fetal in its origin and it is the peripheral, muciparous stroma of the chorion or the villus as modified and added to by the ameboid activities of the nuclei (Langerhans) on their surrounding environmental tissues. There is no distinct or technical cell structure in the so-called Langerhans' cell, simply a nucleus. In intra-uterine pregnancy these infant ectoblasts are the advance posts of the villus. They make a way for the advancing villus by breaking down the tissue structures of their environment, the decidua. In extra-uterine pregnancy they are more active, as the ovum itself is here a parasite. Their metastatic growth he calls syncytioma, a characteristic name descriptive of the wandering, invading characteristics of the syncytium and its nuclei.

54. **Rupture of the Cord.**—Stowe reports a case of rupture of the cord at eight months from traumatism and discusses the accident. He has tested the strength of a number of cords and finds that the comparatively small weight of 8 1/3 pounds will break a cord 45 centimeters long, while it will stretch 26.4 per cent. of its length. In labor the rupture is favored by the greater liability of a living cord breaking than a dead one. The cord whose vessels are filled with blood and whose tissues are filled with serum is shorter in length and is more liable to internal injury. It may be hindered by the loosening or separation of the placenta.

58.—See abstract in THE JOURNAL, xxxix, November 1, p. 1,133.

61. **Pregnancy After Ovariotomy.**—Baldwin reports a case of his own personal observation where after apparently thorough removal of the ovaries, pregnancy occurred. It is possible, he thinks, that a small amount of ovarian tissue might have been left on one side or the other outside of the ligation. He also reports another case in which, after removal of the ovaries, a third body between the layers of the left broad ligament, about the size of a Lima bean, was removed and presented all the characteristics of ordinary ovarian tissue. No other similar tissue could be found, and the abdomen was closed after ventrofixation, but menstruation still continued, though the patient's condition is considerably better. These cases are of interest in connection with those reported by Doran of similar occurrence.

62. **The Bladder After Hysteropexy.**—Kolischer finds that the Alexander operation produces no effects on the bladder, but abdominal hysteropexy, ventrosuspension and ventrofixation seem to have a decided influence on its circulation and function. While exact statistics are not available it seems that with normal function before the operation the urinary calls become frequent, that the resistance of the bladder against certain morbid influences is diminished so that a slight cold causes disagreeable sensations. There is usually extreme paleness of the mucosa in these cases, sometimes a swollen and soaked appearance of the epithelium, and if stretching of the muscles be the cause of the frequent desire to micturate, it is easily understood how this might be brought about by the stretching of the bladder in case of a high, fixed uterus. Vaginal hysteropexy may affect the bladder by operative lesions. Stripping of the bladder from the uterus when imperfectly done so that the bladder coats are involved, may produce stubborn, annoying catarrh, which, however, always heals in time. Dislocation of the bladder itself does not seriously affect it, and in some cases may even improve its function, especially when the bladder is lifted up over the uterus. If the uterus is stitched too low down to the vagina it pulls the wall in such a direction as to distend the urethra posteriorly, and as this is the part involved in maintaining urinary continence, it may be impaired and operative relief be required.

Providence Medical Journal.

January.

63 A Few Cases of Exophthalmic Goiter. Eugene Kingman.
64 *Abscess of Lung. George S. Mathews.
65 Five Cases of Intrapopliteal Bursitis. J. C. Pegram, Jr.
66 The Milk Supply of Providence. Halsey DeWolf.

64. **Lung Abscess.**—Mathews concludes that lung abscess is not a frequent disease *de novo*. It is usually a secondary affection, and probably far more common than is supposed. It is frequently difficult to locate the abscess cavity; the greatest care and accuracy of diagnosis may be required. Pulmonary tuberculosis is the most common cause; pyemia and pneumonia are the most frequent of non-tubercular causes. He condemns the promiscuous use of the exploring needle in the absence of gangrene or where there is reason to believe the two pleural surfaces are not adherent.

Archives of Pediatrics, New York.

December, 1902.

67 *Septic Endocarditis. Samuel S. Adams.
68 *A Report of Thirteen Cases of Edema, Apparently Epidemic in Character. Halsey DeWolf.
69 Pellosis Rheumatica in Children, with a Brief Review of the Literature and Report of Cases. Henry Heiman.
70 *The Value of Prolonged and Uninterrupted Immobilization in Pott's Disease of the Spine. V. P. Gibney.
71 Fourth Disease or What? Frederick T. Simpson.
72 *The Cause of Sore Arms in Vaccination. Alexander McAllster.

67. **Septic Endocarditis.**—Adams reports a case, one of four recoveries under fourteen years of age that he has found reported. The condition is discussed and the various points in regard to it reviewed. Its infectious origin is demonstrated. It seems to be rarely primary, and the author thinks that the various forms of pyogenetic bacteria may exist latent in the body and be called out by conditions of least resistance, attacking the already diseased valves.

68. **Epidemic Edema.**—Thirteen cases of edema occurring in the Providence Lying-in Hospital in infants are reported by DeWolf; 9 were fatal; 4 were discharged against his advice, and

the results not known. He analyzes the symptoms in the different cases and explains the occurrence as follows: A period of severe bowel disturbance occurring in these patients renders them susceptible to the more common infections, possibly acquired from milk. This spreading into the gastrointestinal tract produces pathologic changes in the blood and blood vessel walls besides affecting to a greater or less degree the kidneys, hence the edema.

70. **Pott's Disease.**—Gibney insists on the importance of immobilization and speaks strongly in favor of the plaster-of-paris application. He says if the visit of Professor Lorenz counts for nothing more than the removal of the prejudice against the use of plaster it will be a godsend.

72. **Vaccination.**—The cause of sore arm in vaccination is held by McAlister to be due to the lack of attention given to the patient's after-treatment. He says an operating wound is kept sterile from first to last. An accidental wound is rendered antiseptic as soon as possible, but the vaccination wound is infected with specific germs and the patient dismissed. The remedy for abnormal results is in using good virus, an aseptic technic, and treatment of the case as an important one in minor surgery.

International Medical Magazine, New York.

December, 1902.

73 *Neurasthenia in Children. J. Madison Taylor.
74 *The Principles Underlying the Dietetic and Physical Treatment of Acute Nephritis. Carl von Noorden.
75 Treatment of Disease of the Gland of Bartholin. E. E. Montgomery.
76 The Correction of Bow Legs. James K. Young.

73. **Neurasthenia in Children.**—Taylor calls attention to this condition, which is not rare, as shown by lack of energy and of interest in the ordinary pursuits of childhood, and is likely to be confused with the effects of bad habits, hysteria and mendacity. The physician should always keep the psychic factor in view. Eye strain is especially noted as a cause, and should be looked for. Cardiac neuroses are common in children. The heart, lungs, blood and kidneys should be attended to. The child should have plenty of air, which is one of the best tonics. All outings and exercise shqild be supplemented by rest and the whole daily life of the child should be looked after. Proper food of a sufficient variety, bathing, sponge baths in warm room before breakfast, sometimes rest in bed for a few days to a week, and following a strict schedule of feeding may be beneficial.

74. **Nephritis.**—Von Noorden advises in the severe cases of acute nephritis with anuria and oliguria, increasing edema and impending danger of uremia a very limited diet consisting of about half a liter of milk a day and the avoidance of fluid nourishment as much as possible; a little ice to be sucked for the thirst or very small quantities of water. The kidneys must be spared as much as possible. The surplus water in the tissues must be removed by diaphoresis. This course can not be kept up for more than four or five days, but after that time the dangerous stage of oliguria rarely persists; the patient either succumbs or improves. Where the secretion of water is reduced, but anuria does not threaten and the edema is moderate, the diet should be milk, to which a small quantity of carbonate of lime should be added, also a sufficient amount of fat in the form of cream. The additions to the food should be such as not to irritate the kidneys, and nothing that is difficult to eliminate. He gives a daily menu, consisting in milk, cream, rice, zwieback, butter and sugar, amounting to 2,900 calories, and with 60 gms. of proteids and 100 gms. of carbohydrates and 212 of fat. In acute nephritis a diet containing so many calories is hardly required. A definite limit as to the amount of water is hard to state, but if the kidneys are capable of eliminating it, we can give it abundantly, and if in spite of good diuresis, edema persists, sweating may be indicated. As the edema disappears it becomes unnecessary. In the convalescent stage of acute nephritis the diet should be more abundant, partly of milk, but not more than 2½ liters, as more would contain too much proteid. The other articles which may be added are white bread, legumes, cereals, mild fresh cheese, some fruits, particularly grapes, small quantities of egg and meat, etc. The protein in the diet should be very gradually increased and not exceed 100 g. per diem until the nephritic process is healed. The administrations of large quantities of fluid is important at this time, and he usually prescribes a bottle a day of unfermented grape juice, which is a stimulant to the bowels and also a good diuretic. If edema appears, in spite of diuresis, as it does in some cases, some dry climate is advised. He mentions Egypt as being particularly suitable.

The Laryngoscope, St. Louis.

December, 1902.

77 *The Neighboring Parts of the Middle Ear and Their Infection. Otto J. Stein.
78 *The Results of Treatment of Laryngeal Cancer by Means of the X-Ray. D. Bryson Delavan.
79 A Case of Foreign Body in the Bronchus. F. E. Hopkins.
80 *Carcinoma of the Epipharynx. Hanau W. Loeb.
81 Pneumatic Nasal Tampon and Splint. C. A. Leenheer.

77. **The Middle Ear.**—Stein's paper is purely anatomical, giving a description of the anatomy of adjoining parts to the middle ear and their relations.

78. **Laryngeal Cancer.**—The actual position of *x*-ray therapeutics as regards laryngeal cancer at the present time, according to Delavan, is that not a single case has been apparently reported cured, but few cases have been thus treated. In one case treated by Dr. W. J. Morton for the author, apparently good results were produced on the growth, but the patient died of Bright's disease after twenty applications of the *x*-ray. He thinks that the victim of advanced laryngeal cancer should at least be allowed the benefit of this method.

80. **Carcinoma of the Epipharynx.**—Loeb reports a case of his own observation and reviews the others in the literature, giving elaborate analyses of the symptoms. He concludes that although carcinoma of the epipharynx must be accounted as one of the rarest of affections, its symptoms declare themselves with such positiveness that a diagnosis may be made at an early stage. The early symptoms are pain, deafness, tinnitus, nasal obstruction, fetid and bloody discharge on the affected side, unilateral paralysis of the palate and some of the muscles supplied by the facial. Later symptoms depend on extension to and through the basis cranii, most commonly in the region of the foramen lacorum medium, where jt comes into relation with the Gasserian ganglion. It may, however, grow more anteriorly or extend backward and involve various cranial nerves; in fact, any part of the floor of the middle fossa may be destroyed and entrance into the cranial cavity effected. With our present surgical methods there is no chance of cure, absolute or relative, and the only glimmer of hope is in the advance made in such methods as the *x*-ray treatment of dermal cancers.

Louisville Monthly Journal of Medicine and Surgery.

January.

82 *The Mastoid Operations and Their Indications. Adolph O. Pfingst.
83 *The Colon Douche—Its Use and Abuse. Thomas Hunt Stucky.
84 Proprietary Medicines. C. Rhinerr.
85 The Proper Methods in X-Ray Therapy. C. M. Muts.
85½ Treatment of Typhoid Fever. L. P. Hammond.

82. **Mastoid Operations.**—Pfingst summarizes the indications as follows: The Schwartze operation is indicated in all cases of mastoid osteitis following otorrhea if the inflammation under treatment does not tend to resolve, and in primary mastoid inflammation when free incision of the swollen meatus fails to relieve, also in cases of purulent otitis where symptoms arise indicating brain involvement, and in protracted otitis with a profuse discharge and slight elevation of temperature, the symptoms being persistent for four or five weeks or more. Lastly, in cases of obstinate neuralgia referable to the mastoid with or without persistent otorrhea, as such are often relieved by opening the antrum and ventilating the attic. The Stacke-Schwartze operation is indicated in chronic cases of otitis media not relieved by ossiculectomy or by the removal of recurrent granulation tissue or by frequent irrigation, in which the patient complains of intermittent pains over the mastoid, even though there be no other symptoms of mastoiditis, and in protracted cases of chronic otorrhea in which symptoms indicating intracranial complications arise. In chronic cases of purulent otitis media accompanied by cholesteotomatous formation, and in all cases of extensive caries, with or without fistulous openings in the mastoid or the posterior-

superior osseous canal. He discusses the symptoms and reports cases. He would not advise operation in cases like the one reported except where the patient has frequent headaches, constant dizziness and tenderness over the bone.

83. **Colon Douche.**—The influence of this measure is far-reaching and powerful and may be damaging. Its use is many times uncalled for and in a physiologic condition can produce great harm. The important fact is not quantity, but temperature. To produce appreciable effects the age and position of the patient must be considered aside from local conditions. Considerable care must be observed in the selection of cases, and a consideration of the indications and contra-indications that may arise. Stucky notices these in detail, more especially as regards the opinions of authorities in regard to them.

Hot Springs Medical Journal.

December, 1902.

86 *Digestive Disorders in Consumption, with Notes on Mixed Infections. Paul Paquin.
87 *My Experience with Formalin in Surgery. John L. Jelks.

86.—See abstract in THE JOURNAL, xxxix, p. 1065.

87. **Formalin.**—Jelks speaks very highly of the use of formalin in various conditions. He does not think it more irritating than other agents that are employed. He finds it of special value in suppurations, ulcers, gonorrhea and infected wounds, in postpartum infections and certain skin diseases, such as tinea, etc. He thinks that stronger solution should not be used in clean open wounds or in skin granulations. Its use on the skin at the point of proposed incision is good practice and insures sterilization. In rectal surgery there is no other antiseptic so reliable. He has not had with it nearly so large a percentage of fistulæ from perirectal abscess as the statistics of authorities give and believes if the case is operated on and dressed each day after formalin irrigation fistulæ will hardly occur. In chronic dysentery he uses hot formalin solution to cleanse the mucous surfaces, with good results.

Medical Fortnightly, St. Louis.

January 10.

88 *Laminectomy for Fracture-Dislocation of Fourth and Fifth Cervical Vertebræ. Joseph R. Eastman.
89 Hot Baths in the Treatment of Fevers, More Particularly in the Case of the Aged, Debilitated Persons and Children. George I. Bluhm.
90 *Treatment of Typhoid Fever with Castor Oil. C. C. Bass.
91 The Seven Forms of Vomiting in Children. J. H. Komarski.
92 Hemoptysis (Pulmonary Hemorrhage). Albert Abrams.
93 A Successful Treatment of Rheumatism. H. H. Fletcher.
94 Report of Cases Treated with Roentgen Rays. Wm. A. Pusey.

88.—See abstract in THE JOURNAL, xxxix, p. 1131.

90.—Ibid., p. 1066.

Canadian Practitioner and Review, Toronto.

January.

95 Report of a Case of Acute Rheumatism. Harold C. Parsons.
96 Symptoms of Acute Rheumatism. W. P. Caven.
97 Complications of Rheumatism. John L. Davison.
98 Surgical Indications in Rheumatism. R. B. Nevitt.
99 Rheumatic Conditions in the Upper Air Passages and in the Organ of Special Sense. J. O. Orr.
100 The Treatment of Rheumatism. J. T. Fotheringham.
101 *Septicemia and the Curette. H. Plympton.
102 Glimpses from the History of Medicine. H. S. Hutchison.

101.—This is the thirty-sixth appearance we have noted of this article is an original contribution. See editorial in THE JOURNAL, xxxix, p. 1327. Further notice will not be taken of it.

American Practitioner and News, Louisville, Ky.

October 15, 1902.

103 The Influence of the Cervical Sympathetic upon the Eye, with Two Cases of Paralysis. William Cheatham.
104 The Present Status of Radiotherapy and Radiography. M. F. Coomes.
105 The Present Status of Brain Surgery. H. J. Whitacre.

Denver Medical Times.

January.

106 Antipyrene Treatment of Chorea. S. D. Hopkins.
107 Chorea Insaniens—Report of a Case. Hubert Work.
108 Treatment for Wound Infections. P. H. McNaught.
109 Some Observations on Saloquinin. Edward C. Hill.
110 Effects of Poisoning from Gasoline, with Report of Two Cases. C. A. Ferris.
111 Malignant Growths Treated by the X-Ray. B. B. Grover.

Canada Lancet, Toronto.

January.

112 Surgical Treatment of Gallstones. J. F. W. Ross.
113 Cases Exhibited at the Surgical Demonstration in the Royal Victoria Hospital, on Thursday, Sept. 18, 1902, Before the Members of the Canadian Medical Association. James Bell.
114 Insomnia. H. H. MacKay.
115 Cirrhosis of the Liver in the Young. J. T. Fotheringham.

St. Paul Medical Journal.

January.

116 Adenoid Growths in Children. Jacob E. Schadle.
117 Acute Hemorrhagic Pancreatitis with Résumé of Pathological Changes Found in a Case. David H. Lando.
118 The Treatment of Tuberculosis in the Incipient Stages. W. B. Hopkins.
119 A Clinical Conference in Obstetrics, with a Section of the Senior Class. Frederick Leavitt.

Brooklyn Medical Journal

January.

120 Remarks upon Some of the Recent Contributions to Obstetric Therapeutics. Charles Jewett.
121 Some Observations on Perforating Ulcer of the Duodenum. James P. Warbasse.
122 Painful and Protracted First Stage of Labor. W. L. Chapman and L. N. Foote.
123 Vicious Peritoneal Adhesions of the Duodeno-hepatic Region. James P. Warbasse.
124 Address, Long Island Alumni Association of Columbia University. Algernon T. Bristow.
125 Atropia, Its Uses and Contraindications in Ophthalmic Practice. P. Chalmers Jameson.
126 Historical Epitome of Anatomy. Charles B. Bacon.
127 A Few Suggestions to the Doctor on the Witness Stand. Evarts L. Prentiss.

Medical Sentinel, Portland, Ore.

December, 1902.

128 The Needs of the Society. President's Address, Idaho State Medical Society. H. A. Castle.
129 Typhoid Fever—Bacteriology, Diagnosis and Differential Diagnosis, Value of Widal's Agglutination Test, Ehrlich's Diazo-Reaction and Direct Examination of the Blood. Ed. E. Mazey.
130 Some Observations and Comments on the Spread of Typhoid Fever. Charles W. Shaf.
131 Physiology, Past, Present and Future. I. L. Magee.
132 Report of a Case of Congenital Absence of Uterus and Appendages. G. G. Barker.

Journal of the Michigan State Medical Society, Detroit.

January.

133 The Etiology and Prophylaxis of Abortion and Premature Labor. J. G. Lynds.
134 The Treatment of Abortion, Immature and Premature Labor. H. Wellington Yates.
135 Complications of Abortion, Miscarriage and Premature Labor. A. H. Rockwell.
136 Moral and Legal Aspect of Abortion, Miscarriage and Premature Labor. F. J. Welsh.
137 Rupture of Intestine—Operation, Recovery. Frederick W. Robbins.
138 Therapeutic Action of the Roentgen Rays in Dermatosis and Malignant Growths. Henry R. Varney.

Albany Medical Annals.

January.

139 Address, Albany Medical College Alumni Association of Central New York. W. Clinton Kellogg.
140 Influence of the Medical Society of the State of New York on Medical Legislation and the Standard of Medicine. Albert Vander Veer.
141 Toxemias from Spirit Drinking. T. D. Crothers.
142 Report of a Case of Aortic Regurgitation and Stenosis and Mitral Regurgitation with Capillary Pulse. Willard H. Sweet.

Kansas City Medical Index-Lancet.

January.

143 Some Remarks Concerning the Progress of Medicine vs. That of Surgery. Edward L. Chambliss.
144 Education, the Fundamental Principle in the Prevention of Pulmonary Tuberculosis. Charles W. Fassett.
145 Puerperal Infection. W. R. Beatle.
146 Etiology of Scarlatina. J. W. Kyger.
146½ Apomorphin Hydrochlorate and Some of Its Uses. J. C. Matthews.

New Yorker Medicinische Monatschrift.

December, 1902.

147 Ueber Heilung der chron. Nephritis durch Operation. Gustav Schirmer.
148 Aerztliche Ethik unter besonderer Berücksichtigung der Psychotherapie und Psychohygiene. Albert Moll.

Medical Summary, Philadelphia.

January.

149 Accessory Oridueal Ostia. Byron Robinson.
150 Placenta Previa—Surgical Interference. John R. Smith.
151 Pneumonia. Wm. H. Vail.
152 Spiritualism. C. E. Patterson.
153 Cyanide Salts. J. S. Caldwell.
154 The Twenty Most Useful Remedies. J. A. Burnett.

Atlanta Journal-Record of Medicine.

January.

155 Curettage—Its Indications and Technic. Monroe Smith.
156 Benzoate of Guaiacol. Mark W. Peyser.
157 Some Phases of Albuminuria. William S. Gordon.

Medical Times, New York.

January.

158 Points in the Treatment of Cardiac Disease. A. N. Ellis.
159 Therapeutic Uses of Water. Andrew M. Stovall.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

January 3.

1 *Future of Electrotherapeutics. Edmund Owen.
2 *The Simulation of Intestinal Obstruction. Anthony Bowlby.
3 *The Diagnosis and Treatment of Various Forms of Septic Synovitis. F. C. Wallis.
4 *Use of Paraffin for Sunken Noses. Stephen Paget.
5 The Nomenclature of Malaria. David Bruce.

January 10.

6 *Appendicitis. Gilbert Barling.
7 Remarks on a Second Series of Fifty Cases of Recurrent Appendicitis Treated by Operation. F. A. Southam.
8 Constriction of the Small Intestine by a Gangrenous Appendix. G. Lovell Gulland and David Wallace.
9 Four Cases of Duodenal Ulcer Perforating Acutely. D'Arcy Power.
10 Resection of the Large Intestine for Carcinoma. James Swain.
11 Enterectomy for Malignant Disease. Walter I. Woollcombe.
12 Three Cases of Acute Intussusception in the Same Family. Robert G. Riddell.
13 Case of Volvulus of the Cecum. F. R. B. Bisshopp and Alfred Fripp.

1. **The Future of Electrotherapeutics.**—Owen thinks electrotherapeutics has suffered from the apathy of the profession and has too much fallen into the hands of quacks. Its standing is not what it should be, either with the public or the profession. He draws a picture of the average practitioner looking up his old magneto-electric machine as the usual idea of applying electricity, and he recommends a large central electric institution in London to which cases could be sent by physicians to be scientifically treated, having every appliance and being the headquarters of the Electrotherapeutic Society.

2. **Simulation of Intestinal Obstruction.**—Bowlby notices at first the symptoms of true intestinal obstruction, pain, vomiting, obstruction of the passage of wind or feces, and then calls attention to the conditions that may simulate this accident, reporting cases of obstruction due to perityphlitic abscess without pain or fever, interfering with peristalsis, also cases of renal colic, gallstone impaction and acute pancreatitis, embolism of superior mesenteric artery, which acted by damaging the bowel by cutting off its nutrition, functional constipation and of enteritis. In conclusion he gives certain indications for exploratory operation, which he thinks can be followed in case it is decided to open the abdomen in order to seek for the supposed mechanical obstruction. These are the rules he has made for his own guidance and he has found it of great assistance to have a definite plan on which to proceed. He is not inclined to favor too frequent or recent exploratory operations and is conservative, but insists on careful consideration of all symptoms in an attempt to derive as nearly as possible the diagnosis before deciding.

1. Open in the middle line below the umbilicus, because most of the causes of obstruction will be found in the lower half of the abdomen.

2. Without allowing any intestine to escape, examine first, with two or more fingers, or even the whole hand, the right iliac region, and pass from there towards the umbilicus to feel whether there are any adhesions there. It is in this right lower half of the abdomen that most of the causes of obstruction are to be found, for here are: 1, the appendix; 2, intestinal diverticula, perhaps attached to the umbilicus or to the neighboring mesentery; 3, the commonest site for volvulus, that is, the cecum; 4, the usual site for the lodgment of an impacted gallstone, that is, the lower part of the ileum; 5, a common place for adhesions due to caseous mesenteric glands; 6, the sites of inguinal, femoral, and obturator hernia. Further, if the obstruction be in the small intestine, it is in the right iliac fossa that undistended intestine will be found, and if this can be secured and traced upward it is the surest guide to the seat of obstruction.

3. Examine next the left iliac region and the pelvic region, the latter, especially if the patient be a woman, for there, as additional causes of adhesions, may be inflamed ovaries or tubes or some uterine trouble with neighboring inflammation.

4. If no cause can be discovered then either open a coil of distended intestine and suture it to the skin, if the patient be too ill to bear more; or else decide to take the distended bowel out of the abdomen altogether, and if necessary open it, empty it and suture it. It is only by so doing that you will be able to return it once you have decided to let it escape, and it is often only by so doing that you will find a deeply-seated obstruction.

3. **Septic Synovitis.**—The forms noticed by Wallis are gonorrheal, influenzal, osteomyelitic, streptococcic and pyemic. The symptoms differ from the ordinary rheumatic fever in the absence of swelling and a dried harsh condition of the skin. The cutaneous and the distressed mental conditions have been well described by Rolleston, who considers the disorder of much more common occurrence than is generally suspected. The attacks usually clear up with rest and simple measures; operative interference is seldom needed, and it is not always possible to tell just what special micro-organisms are responsible.

4. **Paraffin Prothesis.**—Paget gives the results of his own experience with Gersuny's method and illustrates it with figures. He thinks it is advisable to use paraffin which has a melting point above fever heat, as embolism has followed the injection of mercurial oils and if easily softened in cases of fever there might possibly be complications. He prefers to use the paraffin melting at 110 to 115, the best being at about 110 or 111, not below it. The softer paraffins are very slowly replaced by fibrous tissue; the hard ones become encapsulated. He has never been able to get perfect results, but often very satisfactory ones.

6. **Appendicitis.**—Barling thinks he sees in the hospital experience of late years an actual increase in the incidence of appendicitis. It is not easy to give the reason why. He calls attention to a certain family predisposition to the disorder and gives an account of his own cases. He is not an advocate of indiscriminate operation, but believes in judicial selection of cases for operating. If the patient can be carried safely through his attack it should be done and operation done in the interval. The symptoms are reviewed. He does not find a constant pain at McBurney's point; this could not be expected, considering the variations of the position of the appendix. Of all the signs that might guide us as to the seat of the condition the pulse is the most valuable and reliable. Its rapidity should be indexed rather than its quality. It is not the hard, wiry pulse of peritonitis, notwithstanding peritonitis is the essential feature of the disease. It is, on the contrary, soft and yielding. It is to its rate, however, that he specially calls attention. When the onset pain is distracting the patient the pulse-beat may be 120 or 130 in the minute, but with a less intense seizure 20 or 30 beats slower is more to be expected. With diminution of the pain the pulse rate falls. If it comes to nearly normal probably other symptoms will also improve. If it should remain high, however, for more than twelve hours, the case should be looked on as a grave one unless there is some special explanation. A steady quickening of the pulse is also significant. Unfortunately the quick pulse is not always present. After the early days of the attack have passed the pulse rate will probably be of little assistance, but will be nearly normal and other symptoms, palpation, the thermometer, etc., may have to be utilized and depended on. The temperature is not a certain guide, but not to be despised. The value of the leucocyte count is considerable, but it is not infallible. He would say as regards operation we should always be guided by the severity of the symptoms present and ignore the absence of symptoms usually present or of very slight intensity if they are present. If the patient does not vomit and his temperature is approximately normal, while the pulse is 120 and the abdomen nearly rigid, lay stress on these last two points and pay little heed to the others. Or, again, if the pulse is but moderately quick and the temperature is not in correspondence and yet the patient continues to vomit despite the prohibition of mouth feeding, too great emphasis can hardly be placed on the last symptoms. If the temperature is falling and the pulse quickening, whatever the state of the other symptoms the pulse is the index to the conditions in the abdomen. He describes the operation and gives an analysis of his own cases. He emphasizes the avoidance of the repeated and persistent use of opium, which is a dangerous practice, as it misleads the patient, though the drug may be necessary to quiet pain at the onset.

The Lancet, London.

January 3.

14 *The Erection of a Sanatorium for the Treatment of Tuberculosis in England: Together with a Number of Appendices and Illustrative Plans. Arthur Latham.
15 *The Erection of a Sanatorium in England for the Treatment of Tuberculosis. F. J. Wethered.

16 *Essay and Plans for the Erection of a Sanatorium for Tuberculosis. Egbert C. Morland.

January 10.

17 *The Anesthetization of So-called Difficult and Bad Subjects. Frederic W. Hewitt.
18 *The Problem of Infection and Immunity in Tuberculosis and the Issues Involved. Hugh R. Beever.
19 *An Improved Method for the Microscopical Diagnosis of Intermittent Fever. Ronald Ross.
20 *Vaccination Rashes and Complications. George Pernet.
21 A Second Case of Successful Operation for Perforation in Typhoid Fever. Anthony A. Bowlby.
22 *A New Differential Stain for the Klebs-Loeffler Bacillus of Diphtheria. J. Wiclife Peck.
23 *The Diffusibility of Scarlet Fever Virus. John Sutherland.
24 Bence-Jones Albumosuria, with Report of Three Cases. James M. Anders and L. Napoleon Boston.
25 Intravascular Antisepsis. J. M. Fortescue-Brickdale.
26 A Case of Hypertrophic Stenosis of the Pylorus in an Infant; Recovery without Operation. H. Willoughby Gardner.

14, 15, 16.—See editorial, THE JOURNAL, January 24, p. 250.

17. **Anesthesia.**—Bad subjects for anesthesia, according to Hewitt, are most generally robust, healthy, muscular individuals; the spare, sallow women are more generally the ideal patients for anesthesia. The bad subjects he considers under six heads: 1. Patients whose general health is good—possibly exceedingly good—who have some physical peculiarity rendering them more or less liable to intercurrent embarrassment or arrest of breathing. 2. Patients whose respiratory tract is in some way encroached on or whose respiration is in some way hampered by pathologic or other conditions. 3. Patients suffering from certain grave visceral or constitutional affections 4. The highly nervous or excitable patients; those suffering from various nervous affections, and those given to the excessive use of morphin, alcohol or other drugs. 5. Patients having the characteristics of two or more of the foregoing classes. 6. Patients who prove to be difficult or bad subjects without any discoverable cause. He thinks it preferable to have mouth breathing rather than nasal breathing in an anesthesia, and he has been in the habit of using a small mouth prop between the teeth soon after there is loss of consciousness.

18. **Tuberculosis.**—Beever notices the public fear of tuberculosis which has largely been aroused through medical utterances, and thinks that the disorder should be considered rather subinfectious than infectious. Direct infection is certainly rare in medical experience. While not finding evidence of infection like that of other infectious diseases, he admits that the conditions would not detect so small a percentage as 2.5 or even 5, but believes that he is justified in saying that there is not the accidental rise or fall that would indicate chance infection as in other infectious diseases to the extent of 10 per cent. It has been suggested that the latency of tubercle affords a solution of the problem. While evidence is lacking, there is a kind of latency as we find in old cicatrices and foci, and these are much more frequent in the old than in the young. The frequency of the incidence of phthisis is greatest in the young, and latency, if it took the line of origin of other infectious diseases, would show the same rise and fall and therefore this theory affords no solution. The only kind of an explanation, to his mind, in an inference which is not infrequently uttered, "We, all of us, repeatedly are exposed to infection." On the other hand, the evidences of immunity are more positive, and he notices the decrease of consumption of late years in spite of overcrowding and the increase of population, etc., which would increase the risks of infection. It is better nutrition, avoidance of infectious fever, better sanitation and ventilation that are probably the cause of the improvement. He hopes the medical profession will not encourage the public to avoid their tubercular fellow creatures. Such a course will not, in his opinion, diminish the amount of tuberculosis. It will swell the ranks of the unemployed; it will depress the phthisical wage-earner's spirit; it will empty his pockets and ultimately, by want and distress, reduce his family to that condition of low vitality which the tubercle bacillus requires for a successful invasion. To say that it does not require isolation and is infectious only under exceptional conditions, insist that healthy people may enjoy extraordinary immunity, that fresh air and open windows are the great armor against its attacks, and that the instruction of the young in the general principles of hygiene will prove more valuable eventually than the isolation measures proposed.

19. **Intermittent Fever.**—Ross suggests the use of a large drop of blood on a glass slide, slightly spread out and dried, then treated with aqueous eosin solution, which is allowed to remain for a quarter of an hour. It is then washed off by a very gentle stream of water, as the film is not yet fixed to the glass. After the eosin solution has been washed off the weak solution of methylene blue employed for the Romanowsky stain is allowed to run over the film and remain there for a few seconds, special care being taken not to stain too dark a color; then wash the blue off very gently and the preparation is complete. The stained film can now be dried and mounted or examined directly. It differs from those in ordinary use in containing no hemoglobin and will consist only of the transparent stromata of the corpuscles, the leucocytes, blood plates, and parasites. Twenty times the amount of blood used in the ordinary preparation will be found disposed over the area covered by the cover glass, and in this way it will have many times the diagnostic value of the ordinary preparation. If the Romanowsky stains are efficient the smallest parasites will be found scattered over the field as small blue rings with a deep crimson dot within or on the ring, this being the nucleus. If the preparation has not been overstained the pigment of the pigmented parasites will also be visible.

20. **Vaccination Rashes.**—Pernet describes the different forms of vaccination rashes, such as extravesical, urticarial or erythematous. Gangrenous vaccinia is a very unusual condition. Morbilliform and scarlatiniform rashes also sometimes occur, but are not troublesome. Purpura is an extremely unusual condition. Of the diseases which may be inoculated he mentions syphilis, which is rare and impossible with good bovine virus, leprosy, which he doubts, sepsis, tetanus, the excitation of diseases in predisposed individuals, accidental vaccination, horse-pox and effects of intercurrent disease on vaccination and vice versa. It has been noticed that vaccination benefits whooping cough and that influenza, pneumonia and leprosy have been improved. The symptoms of phthisis have also been modified.

22. **Diphtheria Bacillus.**—The new stain proposed by Peck is the use of Loeffler's methylene blue and Neisser's brown as a counterstain. The film is spread in the usual way, fixed in the flame, stained with Loeffler's methylene blue from three to four seconds, washed quickly, then counterstained with Vesuvian 0.2 per cent. aqueous solution for 30 seconds, again washed quickly, dried and mounted in Canada balsam. The film may be dried on the slide and stained without the use of a coverslip. This stain gives a better result in all instances in which Neisser's acetic acid stain has been used, and it has this great advantage, that it is reliable for staining the Klebs-Loeffler bacillus from a culture on blood serum several days old. He suggests as a name for it the Loeffler-Neisser method.

23. **Scarlet Fever.**—Sutherland questions the possibility of conveyance of scarlet fever by individuals passing from the sick to the well. He has been looking for such a case for several years, but without success. He has had in special investigation, which he here reports, 82 different subjects concerned; in 34 households a very well-intentioned attempt at isolation was begun and maintained for periods ranging between 21 and 43 days, but in each case was ultimately a failure, and the well children came in contact with the patient, with the result of spreading the disease. In 48 cases the sick children were isolated absolutely from the other children in the family, though the different mothers had to pass constantly from one to the other doing the housework as well as attending the sick. In none of these cases was there any extension of the disease from the sick to the well.

Indian Medical Gazette, Calcutta.

December, 1902.

27 Elephantiasis of the Scrotum and Penis. R. D. Murray.
28 *Malaria and Kala-azar. Charles A. Bentley.
29 A Series of Cases of Heart Disease. B. Chatterton.
30 Notes of a Case of Scarlet Fever in Ranchi, Chota Nagpur. R. H. Maddox.
31 A Summary of Ehrlich's Theory of Immunity. E. D. W. Grieg.

28. **Kala-Azar.**—Bentley argues against the possible identity of this disease and malaria, pointing out the differences; the extraordinary character of the temperature curve, and the remarkable resistance exhibited by this fever to treatment by

quinin; the fact that the indigenous and long acclimatized population and not the newcomers are most subject and that malarial parasites are rarely found and such as are found are much more frequent in other localities where kala-azar has not existed. The communicability and epidemicity of kala-azar differ essentially from that usually seen in malarial disease. The fever is not the true remittent, but more like the irregular continued. It has a striking difference in this respect from the ordinary malarial.

The Practitioner, London.

December, 1902.

32 Fracture of the Greater Process of the Calcaneum. Albert Carless and Stephen Mayou.
33 The Berlin Congress on Tuberculosis. Nathan Raw.
34 A Clinical Lecture on Congenital Dislocation of the Hip. W. Bruce Clarke.
35 Is the Catheter Ever Required in Abdomino-Pelvic Operations on Women? Stanmore Bishop.
36 Poverty in Town Life. Arthur Newsholme.

Journal of Tropical Medicine, London.

December 15, 1902.

37 A Report of Four Cases of Malaria at the Branch Seamen's Hospital, Royal Albert Dock, Treated by Arrhenal.
38 *Proof that Ankylostoma Larvæ Can Enter the Skin. P. M. Sandwith.
39 Remarks on the Individuality of Filaria Diurna. (To be continued.) Louis W. Sambon.
40 Report of a Case of Bilharzia from the West Indies. P. Manson.
41 Tumor of the Nose. J. Numa Rat.
42 Filariasis and Sleeping Sickness. J. N. Rat.
43 Bacteria of the Mouth and the Antiseptic Properties of Odol. Stanley Kent.

38. **Ankylostoma.**—Sandwith offers new proof that ankylostoma can enter the body through the skin, experiments on animals (puppies) having shown this; the parasites having been found in the intestines in almost the same length of time as where it was introduced by the mouth. A man who offered himself for experiment also had applications to his forearm and ankylostomum eggs were discovered in his feces on the seventy-first day. Careful examinations were made beforehand before the introduction of the germ in each case, to be sure that there were none pre-existing.

Annales Pasteur, Paris.

44 (No. 11.) Recherches sur le traitement et la prévention du nagana (tsetse fly disease). A. Laveran and F. Mesnil.
45 *Recherches sur la resorption de la toxine tetanique. A. Marie and V. Morax.
46 Contribution à l'étude des sérum précipitants. A. Falloise.
47 Recherches sur la durée de la presence du microbe de la peste injecte vivant dans les veines du cheval (live plague bacilli injected in vein of horse). Carougeau.
48 De l'influence de l'oxygène sur la protéolyse en presence de chloroforme. G. Malfitano.
49 L'alcool est-il un ailment? E. Duclaux.

45. **Absorption of Tetanus Toxin.**—Marie states that tetanus toxin is absorbed by the peripheral nerves, owing to a special affinity for the substance of the cylinder axis. It is attracted to the nerves with great rapidity, but the fixation is not stable. The toxin moves slowly along the nerves toward the center, and at last reaches the ganglion cell, like the absorption of nourishing juices by the roots of a plant. The motor neuron first becomes saturated with the toxin, evidenced in the localized contraction, the local tetanus. Wherever the toxin is injected it is principally attracted by the nerves of the part.

Bulletin Gen. de Therapeutique, Paris.

50 (CXLIV. 3.) Albuminurie d'origine rhinopharyngienne guérie en 3 jours (cured in 3 days) par le siphon de Weber. P. Gallois.
51 *Antisepsie interne et fièvre typhoide. Peilot.
52 *L'iodure d'éthyle dans la pertussis. C. Amat.
53 (No. 4.) *Traitement de la dyapepsie hyposthénique avec fermentations secondaires et dyspnée et bourdonnements de l'oreille (buzzing in the ear) d'origine gastrique. A. Robin.
54 (No. 6.) La crise des eaux minérales en France (the crisis in French watering places). Bendet.
55 (Nos. 7-8.) L'arrhénal. V. Thébault.
56 (No. 10.) La thérapeutique d'autrefois (of the olden time). Cabanès.
57 (No. 12.) *Traitement de tabes par les injections mercurielles. L. Leredde.
58 (No. 13.) L'appendicite. R. Picou.
59 (No. 14.) Sur la correction complète de la myopie. C. Amat.
60 (No. 16.) *Traitement de la lithiase rénale. A. Robin.
61 (No. 17.) Traitement des péricardites. M. Huchard. (Commenced in No. 14.)
62 (No. 19.) L'intensité de l'action toxique médicamenteuse et son rapport avec le titre des solutions des agents chimiques. Etude posologique. B. J. Stokvis.
63 (No. 20.) Les panacées d'autrefois. Cabanès.
64 (No. 22.) Les recents travaux de A. Gautier sur l'arsenic. A. Robin.

51. **Mercurial Treatment and Typhoid Fever.**—Pellot mentions that he has witnessed several instances of typhoid fever occurring in persons who were undergoing an intensive course of mercurial treatment. The saturation of the system with the mercury did not seem to have the least mitigating effect on the course of the typhoid.

52. **Ethyl Iodid in Whooping Cough.**—Amat had his pertussis patients inhale ethyl iodid and found that they were much relieved thereby. The beneficial effect seems to be similar to that derived in asthma.

53. **Treatment of Hyposthenic Dyspepsia.**—Robin allows meat, eggs and fish, but forbids farinaceous foods and bread. Green vegetables contain potash and are therefore favorable. A small dose of sodium bicarbonate a half-hour before meals is useful. After meals he orders eight drops of a mixture of 6 gm. of tincture of ignatia; 1 gm. of tincture of ipecac, and 5 gm. of tincture of illicium, taken in a little Vichy water. For lactic fermentation he prescribes two tablespoonfuls a day of a mixture of .1 to .2 gm. ammonium fluorid in 300 gm. water, taken in the middle of the meal. Mechanical antisepsis can be obtained by lavage, emetics and purgatives. He remarks that lavage of the stomach is now abandoned by those who most advocated it at one time. The indications for it are exceptional, but emetics are very valuable accessory means of realizing mechanical antisepsis. The best for the purpose is ipecac, 1.5 gm. in three doses at intervals of fifteen minutes, in a half-glass of tepid water. At the first sensation of nausea and after each effort at vomiting, another glass of tepid water should be taken so that the stomach will not be empty when it contracts. Coprostasis is very frequent in such persons although they are rarely conscious of it. Robin prefers as a laxative one or two pills at bedtime, with the formula: Barbadoes aloes, .06 gm.; extract of licorice, .06 gm.; gamboge, .03 gm.; extract of belladonna, and of hyoscyamus, āā .005 gm. The dyspnea will vanish as the distension of the stomach subsides, and with it generally the tinnitus, if not organic. If the latter persists, 1 gm. of potassium bromid once or twice a day will generally banish it; or ten drops of tincture of cimicifuga racemosa, an hour before meals, two or three times a day.

57. **Treatment of Tabes with Mercurial Injections.**—Leredde urges that mercurial injections should be made more of a routine measure and that tabes should be treated from the standpoint of 1903 and not from that of even ten years ago. The salt used is immaterial, the main point is the quantity of mercury. Injections are the only means by which we can know that we are actually introducing mercury into the system. Its action is proportional to the intensity of treatment. Fournier declares that tabes has never developed in a syphilitic treated by him for specific ocular affections, showing that adequate mercurialization at the proper moment will arrest the tendency to tabés, as the number is too large to be ascribed to mere chance. Leredde describes as an example a case showing the great benefit derived from .025 gm. of mercury injected every day for two months, in the form of the benzoate, in incipient tabes.

60. **Treatment of Renal Lithiasis.**—If piperazin be given in the dose of .15 to .3 gm. a day for three or four days, by the end of this time there will be a discharge of uric acid in the urine. Recommencing the piperazin again after five or six days, the discharge of uric acid will be noted again. These discharges are not noted under the continuous administration of the drug. Robin, therefore, prefers this method of dosing, using the solution of 3 g. piperazin in 300 gm. distilled water. One tablespoonful represents .15 gm. of the salt. One should be taken after lunch and one after dinner for the first three days of the week. The three following days he substitutes .25 g. carbonate of lithin in a little water before each meal. This treatment should be kept up week after week for months. He supplements it with weak doses of strychnin in the formula of tincture of ignatia and of illicium, āā 6 gm., six drops after meals during the two periods of treatment outlined above. He advises his patients to drink copiously, even at meals.

Revue de Medecine, Paris.

65 (XXII, 8.) De l'élément psychique dans l'hemianésthesie hystérique. Bernheim (Nancy).
66 Le ricin (castor oil) et ses emplois médicinaux dans l'ancienne Egypte. V. Loret.
67 Pathogénie des phlebites. Cenaier.
68 Les formes pathologiques de la rougeur (blushing) emotive. P. Hartenberg.
69 Les stigmates obstétricaux de la degénerescence. R. and H. Larger.
70 (No. 9.) *La sensibilité à l'aimant (to magnet). Ch. Féré.
71 *Variations de l'albumine, de l'acide urique, de l'acidité totale des urines dans les albuminuries permanentes ou inconstantes. G. Daremberg and F. Moriez.
72 (No. 10.) Sur quelques altérations artérielles hemorragipares dans les cirrhoses. C. Bouchard.
73 *Hématologie du cancer de l'estomac. Mouisset and Tolat.
74 De l'angoisse ("anguish"). P. Londe.
75 *Edèmes et hydrorrhées au cours de néphrites chroniques. C. Valentino.
76 Applications cliniques du cytodiagnostic des épanchements des séreuses. A. Desco. (Commenced in No. 9.)
77 (No. 11.) Cas de paramyoclonus multiplex. Etat psychique special. L. R. Bertrand.
78 De l'importance pronostique et thérapeutique de la pression artérielle. C. Jourdin and G. Fischer.
79 L'attaque convulsive de toux hysterique. J. Abadie and H. G. de Cardenal.
80 (No. 12.) L'image mentale morbide. N. Vaschide and C. Vurpas. (Commenced in No. 11.)
81 (No. 12.) Cas de hystérie à forme de paralysie générale. F. Collet and J. Lépine.
82 *Du paludisme à forme typhoide. A. Billet.
83 Doigts (fingers) en valgus. R. Pauly.

70. Muscular Response to the Magnet.—Féré recalls that in normal conditions the tracings of the ergograph recording the work of a muscle in action, show a gradual decline in the energy as the muscle becomes fatigued. In experimenta on 27 subjects, applying a magnet 1 cm. from the forearm, showed that the muscular action was restored to its first extreme of force. As the findings coincided so constantly in all the tests, they establish that this muscular response to the magnet is an actual physical, not a mere psychologic phenomenon.

71. Study of Inconstant Albuminuria.—Daremberg's experience shows that well-tolerated albuminuria is at the minimum or completely absent in the morning. In cases of permanent albuminuria the maximum is observed between noon and 5 p. m. These are the ones influenced by diet, the others not at all. The former require alkaline treatment, the others arsenic. Massage is contraindicated in both. The range between maximal and minimal elimination of uric acid and the total acidity is much wider than in normal persons. In the latter the hourly curves of the elimination of uric acid and of the total acidity harmonize. This is not the case in subjects with morning disappearance of the albuminuria. Persons with inconstant albuminuria may even increase in weight while it continues a progressive course.

73. Hematology with Cancer of the Stomach.—Mouisset urges the importance of the decrease in the number of reds as a valuable point for differentiation of cancer of the stomach from cirrhosis of the liver, ulcer or catarrh of the stomach and especially pernicious anemia. This sign is not invariably present in the incipient stages, but is valuable when it does occur. Leucocytosis is a tardy phenomenon, seldom appearing until the period of cachexia unless induced by some inflammatory process.

75. Humoral Dyscrasia.—Valentino regards hydrorrhea, whether conjunctival, nasal or uterine, as an evidence of a humoral dyscrasia. All reveal an underlying dyscrasic affection and possess the same pathogenic and clinical qualities and importance as the edemas. Hydrorrhea may aid in the early diagnosis of a renal affection.

82. Typhoid Form of Malaria.—Billet has observed forty cases in which the malaria simulated typhoid in every particular. Diagnosis is only possible in such cases by repeated study of the temperature chart hour by hour, which will reveal some slight tendency to a periodicity in the remissions and exacerbations, although possibly extremely slight. Examination of the blood is decisive, and above all the discovery of a mononuclear hyperleucocytosis with predominance of the large mononuclear cells loaded with melanic pigment. This is the only pyrexia known with this leucocyte formula. Quinin confirms the diagnosis as it restores the characteristic intermittency and thus differentiates malaria.

Revue de Therapeutique, Paris.

84 (LXIX, 14.) *Traitement de la maladie d'Addison par les injections de suc de capsules surrenales. Hirtz.
85 (No. 15.) Traitement de la blénorrhagie uréthrale chez l'homme (in man). E. Dind.
86 (No. 16.) *De l'action malfaisante du podophyllin sur l'oeil par contact direct. A. V. de Rocca-Serra.
87 (Nos. 17-18.) Les dilatations de l'estomac. Leur traitement. Soupault.
88 Maladies du cuir chevelu (scalp). P. Gaston.
89 (No. 19.) Le liquide cephalo-rachidien. J. A. Sicard.
90 (No. 20.) *Traitement de la syphilis. R. C. Melgarejo.
91 (No. 21.) Note sur la pathologie generale des dermatoses. R. Leredde.
92 (No. 22.) Traitement de la maladie de Barlow. E. Thiercelin.
93 Chirurgie conservatrice. S. A. de Vevey.
94 (No. 23.) Reflexions générales sur les bases de jugement en thérapeutique. Leredde.
95 *Traitement des hématomes par l'huile comestible (usage externe). J. Camescasse.
96 (No. 24.) *Traitement de l'appendicite. A. Robin.

84. Suprarenal Extract Injections in Addison's Disease.—Early in 1902 Hirtz treated two patients with Addison's disease by injections of extract of the suprarenal capsule. Both were clinically cured in a short time, and in one the signs of a tuberculous lesion in the lung has also disappeared. He also mentions that a number of tuberculous patients whom he has been treating with the same remedy have also improved in a most surprising manner. He is now applying it on an extensive scale and publishes the present communication merely to assert priority.

86. Injury of Eye from Contact with Podophyllin.—Rocca-Serra has witnessed a number of cases of an eye affection in operatives which was finally traced to the manipulation of podophyllin. The dust from it affects the eyes much in the same way as it acts on the intestines when taken internally, inducing a kind of neuroparalytic keratitis in time or an iritis which runs a rapid course, and subsides in a week after removal of the cause.

90. Value of Iodipin in Syphilis.—Melgarejo writes from South America that he has found that iodipin fills a long felt want for syphilitics who have an idiosyncrasy to the iodids. It is equally effective and never induces iodin poisoning, even in enormous doses.

95. Treatment of Hematoma with External Applications of Oil.—By applying oil to a bump the pain is soothed, the bump rapidly reduced and there is no appearance of a bruise. This has been the invariable experience of Camescasse with all contusions of the soft parts, with localized or diffuse ecchymosis, simply anointed with any table oil. It is not necessary to rub the oil into the skin. In one case a severe sprain improved so rapidly under application of equal parts of oil and methyl salicylate that the patient was able to resume work almost at once. In another case the prompt application of the oil caused the resorption of the extravasated blood so rapidly that the proposed damage suit had to be abandoned for lack of traces of the injury.

96. Treatment of Appendicitis.—Robin regards appendicitis as merely a complication of a gastrointestinal derangement. The first stage is gastric hypersthenia with hyperchlorhydria and secondary acid fermentations, generally on arthritic soil. This is followed by stagnation in the cecum of abnormal, acid matters, irritating from the vicious gastric preparation. This induces a catarrhal reaction on the part of the cecum and appendix. The anatomic conditions of the appendix make the catarrhal reaction ominous as the calcareous salts in the fecal matters infiltrate into the inflamed mucous and submucous coats, and infection of this recess follows. At this sixth stage of the process surgical intervention is the only treatment, but in the four first stages medical treatment will effect a cure. Signs of gastric hypersthenia and cecal coprostasis were prominent in every case of appendicitis in Robin's experience. He also has noted 82 cases of appendicitis occurring in 1585 cases of gastric hypersthenia. Castor oil or calomel are needed in the first stages; opium should be absolutely rejected. Attempts to disinfect the intestine are useless if not dangerous. He proclaims that every person with gastric hypersthenia is a candidate for appendicitis, and his cecum

should be kept under constant surveillance. Opium, as usually administered, in incipient appendicitis, merely aggravates the attack. By following the treatment outlined he has cured 244 out of 250 patients, and only 6 required surgical intervention.

Archiv fur Kinderheilkunde, Stuttgart.

97 (XXXV, 3-4.) Zur Kenntniss der Angina exsudativa ulcerosa (A. Vincentii s. A. diphtheroides). C. Baron (Dresden).
98 *Ueber plötzliche Todesfälle im Kindesalter (sudden death of children). P. Krautwig.
99 Untersuchungen über die Athem-Bewegungen (respiratory movements) der Kinder (of children). K. Gregor.
100 Zur Kenntniss der Magensaft- (gastric juice) Secretion der Säuglinge (in infants). A. H. Meyer. (Commenced in No. 1.)
101 Weitere Beiträge zum Situs transversus, etc. P. Geipel. (Commenced in No. 1.)

98. Sudden Death in Children.—Krautwig points out that spasm of the larynx is usually one manifestation of tetany, and both develop best in the same soil on which rachitis flourishes. The evidence to date seems to indicate that the thymus gland has some causal relation with bone growth, and, hence, with rachitis. He does not accept the mechanical connection between sudden death and the thymus which some have been proclaiming lately. He ascribes the death to the nervous disturbances induced by the rachitis, laryngospasm, convulsions, with or without bronchitic processes. He appeals to the profession to have a careful search made for stigmata of rachitis in all cases of sudden death in children. A better knowledge of the essence of rachitis may elucidate many questions in regard to sudden death in the young.

Beitraege zur Geburtsh. und Gynaekologie, Leipsic.

102 (VI, 2.) Path.-anatomische Beiträge zur Lehre vom Abort. K. Hegar.
103 Ueber die Beweglichkeit des Beckens (movability of pelvis) Neonatorum. F. Lichtenberg.
104 Ueber Uterus-Carcinom und Gravidität, mit bes. Berücksichtigung der Dauer-Resultate. A. Glockner (Zweifel's clinic).
105 Zur Casuistik und path.-Anatomie der sog. subchorialen Hematom. Z. Endelmann.
106 *Ueber Prolaps des graviden Uterus, insbesondere dessen Therapie sub partu. L. Seitz (V. Winckel's clinic).
107 Die End-Erfolge der Uterus-Exstirpation beim Uterus-Carcinom. A. Glockner.

106. Treatment of Prolapsed Gravid Uterus.—Seitz describes a case personally observed and reviews 91 that he has collected. He finds that the results were surprisingly good so far as the mother was concerned. The fetus died in 6 cases and was not viable in 26. Lacerations occurred in only 6. In the 22 cases that have occurred since 1892, only 2 had a febrile puerperium, one died from rupture and one had a febrile delivery. The prolapse must be reduced as the first step, as the cervix dilates better in its normal position. The only exception is when the prolapse is very slight. If reduction is painful the prolapse can be swabbed with cocain or general narcosis be used. Morphin may be necessary to prevent bearing down on the part of the woman. Reduction is usually accomplished without much trouble and further prolapse can be mechanically prevented. If the cervix is too indurated to dilate, Von Winckler makes three or four very deep incisions. During extraction an assistant must hold back the uterus from below or from above through the abdomen.

Beitraege zur klin. Chirurgie, Tuebingen.

108 (XXIV, Czerny Jubilee Number.) Experimentelle Epithel-Studien. R. Werner.
109 Seltener Fall von acuter Appendicitis und dadurch bedingter Incarceration des Dünndarms (small intestine). E. von Meyer.
110 Beitrag zur Exstirpation des primären Scheide- (vagina) Carcinoms mit Perforation des Mastdarms (rectum). Ibid.
111 *Ueber permikröse Tuben-Carcinom. W. Zangemeister.
112 *Ueber operative Behandlung der diffusen eitrigen (suppurative) Peritonitis. B. v. Beck.
113 Zur Casuistik der chron. Coecum-Tuberculose. H. Gehle.
114 Erfahrungen (experiences) über Gastroenterostomie. C. Steinthal.
115 Zur path. Bedeutung (significance) der Darm- (intestinal) Parasiten, bes. für die Perityphlitis. A. Schiller.
116 Erfahrungen und Operationen mit dem Murphy-Knopf (button). A. Kitlinger.
117 Trauma und Appendicitis chronica. Jüngst.
118 Zur Behandlung der Verätzungen (corrosions) der Esophagus und des Magens (stomach) mit Gastroentero- und Jejunostomie. G. Hench.
119 Zur Frage der Heilbarkeit der tuberculösen Meningitis. F. Mermann.
120 Heilung einer Kranken nach ihrer dritten Magen-operation (recovery after third op. on stomach). E. Braatz.
121 Beitrag zur Kenntniss der intra-thoracischen Strumen. A. Simon.
122 Fall von Anurie mit Icterus. H. Kaposi.
123 Ein geheilter Fall von Unterbindung (ligation) der Arteria subclavia sinistra am Aorten-Bogen. Jüngst.
124 110 Blasen- (bladder) Stein-Operationen. A. Stein.
125 Zur orthopädische Behandlung von Fällen schwerer Kinderlähmung (severe acute spinal paralysis), bes. von sog. Handgangern (hand walkers). O. Vulpius.
126 Beitrag zur totalen Exstirpation des carcinomatösen Magens (stomach). E. v. Herczel.
127 *Ueber die Radikal-Operation der Spina bifida. G. B. Schmidt.
128 Histologische und experimentelle Beiträge zur Frage der Schnitt-Führung (incision) und Naht-Methode (suture) bei Laparotomien. A. Nehrkorn.
129 Ein Kragenknopf (collar button) im linken Haupt-Bronchus. C. v. Eicken.
130 Die Dauer-Resultate der Bassini'schen Radikal-Operation bei Leistenbrüchen (inguinal hernias). Malanowitsch.
131 *Wander-Niere und Gallenstein (movable kidney and gallstone). G. Marwedel.
132 Ueber multiple cartilaginäre Exostosen und deren klin. Bedeutung. H. Starck.
133 Ueber Thorax-Resektionen bei Empyem-Fistulen und ihre End-Resultate. Jordan.
134 Zwei Fälle seltener maligner Vulva-Tumoren. O. Simon.
135 *Zur Behandlung und Operation der Muskel-Brüche (muscle hernias). Steudel.
136 Behandlung der Fracturen mit primärer Knochen-Naht (suture of bone). F. Völcker.
137 Zur operative Behandlung der Blasen-Geschwülste (bladder tumors). E. Lobstein.
138 Ueber nahtlöse Darm-Ausschaltung (sutureless exclusion of intestine). Invaginations-Methode. W. Rindfleisch.
139 Ueber Heilungs-Vorgänge (healing processes) im Carcinom Zugleich ein Beitrag zur Kenntniss der Carcinom Riesen- (giant) Zellen. W. Petersen.
140 Die modernen Principien in der Behandlung der penetrierenden Bauch- (abdominal) Wunden. W. v. Würthenau.
141 Die Dauer-Resultate der vaginalen Uterus-Exstirpation an der chirurg. Klinik in Heidelberg, 1878-1900. Ibid.
142 Zur Klinik und op. Behandlung der Ovarial-Tumoren. A. Blau.
143 Ueber den cong. Verschluss (occlusion) des Dünndarms (small intestine) und seine op. Behandlung. H. Braun.

111. Primary Carcinoma of the Tube.—Zangemeister reviews 48 and adds 3 cases he has personally observed. In 11 patients both tubes were involved. The maximum frequency was at the age of 44 to 47.

112. Operative Treatment of Diffuse Peritonitis.—Beck reports the particulars of 100 cases on which he has operated. Appendicitis was the cause in 66. Out of the total of 54 who recovered the stomach had been perforated in 3, the duodenum in 1, the gall-bladder in 1, the intestine torn in 2 and the bladder in 1. The perforation had been in the appendix in the others. He found the bacterium coli in 81 cases, the typhoid bacillus in 2, streptococci in 10, staphylococci in 6 and the pneumococcus in 1. In 58 the Douglas pouch could be palpated through the rectum as a painful, hard protuberance. After incision and evacuation of the peritoneal effusion by changing the position of the body, he seeks for the primary focus and then carefully dries the peritoneal cavity. He then inserts a drain under the liver and strips of gauze in the Douglas, hypogastrium, lumbar region, above and below the omentum, raises the foot of the bed, and changes the dressings in twenty-four hours. Nothing is given by the mouth, but the patient is fed by the rectum three times a day. Twice a day a "thirst injection" of salt solution is given, with digitalis and strophanthus as indicated. Also lavage of the stomach, atropin or morphin if necessary. He makes copious use of saline infusion, intravenous in the severer cases, and also gives a rectal injection at night of 100 to 250 gm. of oil, to be retained. The chief danger is from the ptomains generated in the stagnating and decaying fecal masses, which are liable to act like the most powerful heart poisons, and the septic matters of the peritoneal suppuration.

127. Radical Operation for Spina Bifida.—Schmidt isolates the sac from the surrounding tissues by cautious blunt dissection, then releases its contents by puncture, and reduces the sac *in toto* without opening it. The sac thus plugs the opening in the bone, and what can still be seen of the cyst is then sutured together in several tiers and the skin sutured above it. He has thus treated three patients with complete success, and no recurrence during the more than a year since, as can be seen from the photographs appended.

131. Movable Kidney and Gallstones.—Marwedel emphasizes the dangers likely to accrue from a movable kidney on the right side. It is liable to induce all the symptoms of a gallstone affection, typical colics, stagnation of bile in gall bladder,

etc., and icterus, while in reality the biliary passages may be intact. Compression by the displaced kidney may even lead to a secondary formation of gallstones. In case the wandering kidney is associated with gallstones or another affection which may require a laparotomy, it is advisable to anchor the kidney through the same opening. He suggests for the purpose "transfixation," and describes four cases which he treated in this manner. He pushed the kidney as far into its normal place as possible, and then fastened it with two simple mattress sutures, which from the inside passed outward through the peritoneum, margin of the kidney, musculature and skin, where they were tied over a roll of gauze in the lumbar region just below the twelfth rib. He passed one suture through the lower pole of the kidney and the other through the outer convex margin, using a stout silkworm, left for three weeks, with a straight needle on each end of the thread. He remarks that the method differs from Reed's in several points, and is recommended only for cases requiring a laparotomy for other reasons. The results have been entirely satisfactory.

135. **Treatment of Muscle Hernias.**—Steudel observes that a muscle hernia developing suddenly offers a better prognosis than one of slow occurrence. Hernias of the tibialis anticus seem to heal more readily than those of the adductors. When the hernia is small, conservative treatment is indicated, if seen early. Application of a fenestrated plaster cast, ether spray and compression are useful. But removal of the protruding portion of the muscle and suture of fascia with catgut under local anesthesia are justified even when the disturbances are not serious. A fenestrated plaster cast affords the best prospects for healing even after operative intervention. He has had 3 such cases and has collected 24 in the literature, all operated on; 13 were cured and 6 improved, but no benefit was derived in 5.

Berliner Klin Wochenschrift, Berlin.

144 (XXXIX, 47.) Ueber Glycerolate. K. Herzheimer.
145 Weitere Beiträge zur Lehre von der Darm-Fäulniss (intestinal putrefaction). A. Albu.
146 Färberisches (study of stains) zur Kenntniss des sog. Chromatin-Korns (Kern-punkts) von Protisten. A. Pappenheim.
147 *Beiträge zum Studium des Stoffwechsels in der chron. Tuberculose. J. Mitelescu. (Commenced in No. 44.)
148 *Justification and Necessity for Interrupting Pregnancy of Tuberculous Working Women. C. Hamburger. (Commenced in No. 45.)
149 Zur Lehre von der atonischen Dilatio der Ösophagus. M. Levinson.
150 (No. 48.) Ueber das Skoliose-Redressement. A. Schanz.
151 *Ueber das Streptococcen-Sera. Piorkowski.
152 Das acute circumscripte Ödem. F. Mendel.
153 (No. 49.) Zur Kenntniss des Fettumsatzes (transformation of fat) im Organismus. H. Leo.
154 Zur Photographie des Augenhintergrundes (fundus of eye). F. Dimmer.
155 Ueber das färberische Verhalten der thierischen Zelle gegenüber Farbgemischen (reaction of cells to stains). M. Mosse.
156 Zur Frage über die Hemolysine im menschlichen Serum. M. Halpern. (Commenced in No. 48.)
157 Ueber Antistreptokokken-Serum bei Scharlach (scarlet fever). A. Baginsky.
158 (No. 50.) Ueber wahres Aneurysma des Sinus Valsalvæ Aortæ dexter. F. Kraus.
159 Die akuten Tonsilliten. Beckmann.
160 Ueber den Missbrauch der Borsäure (abuse of boric acid). Dosquet-Manasse.
161 Action of Albuminoid Bodies on Coagulation of Blood. H. Brat.—Ueber die Einwirkung von Eiweisskörpern auf die Blutgerinnung. (Commenced in No. 49.)
162 *Serum Treatment of Morphin Intoxication. L. Hirschlaff.—Ein Heilserum zur Bekämpfung der Morphium-Vergiftung und ähnlichen Intoxicationen.
163 Virchow's Bedeutung für die Neurologie und die Psychiatrie. K. Mendel.

147. **Metabolism in Chronic Tuberculosis.**—The results of Mitelescu's research are given in tabulated form. They seem chiefly to emphasize the double duty which the cells have to perform in tuberculosis, besides their natural, specific functions, the production of those secretions which serve as a means of defense against the invading toxi-infection.

148. **Interruption of Pregnancy in Tuberculous Workingwomen.**—Hamburger asserts that 75 per cent. of the working women of Germany live on less than 900 marks, or $225, a year. It is impossible for a tuberculous woman, under these circumstances, to stand the stress of a pregnancy, and he therefore advises that it should be interrupted. The physician should always consult with a colleague in the matter and obtain the written consent of the parties beforehand.

151. **Antistreptococcus Sera.**—Piorkowski has succeeded in producing an effective serum against the disease of horses known as the *Pferdedrüse* in Germany. It is a streptococcus infection, but the cocci are strictly specific. The serum will agglutinate streptococci from an angina to a very slight extent, and streptococci of other derivations a little more, but will always agglutinate the specific *Pferdedrüse* streptococci at 100. He therefore rejects the theory of the uniformity of the streptococcus.

162. **Serum Treatment of Morphin Intoxication.**—Hirschlaff reports experimental research on 85 rabbits treated for three weeks to five months with small doses of morphin, commencing with .015 gm. and increasing to .51, or a maximum or 1.2 gm. a day. The animals thus received a total of 4.59 to 63.61 gm. of morphin and the rabbit serum acquired protecting power against otherwise fatal doses of morphin, both for rabbits and 100 mice. After thorough tests of the immunization thus attained, he used the serum for the treatment of one acute and five chronic cases of morphin intoxication. Some of the patients had been in the habit for years of receiving a subcutaneous injection every day, and all previous attempts at suspension of the drug had induced severe symptoms. After one to three injections of the serum, with abrupt suspension of the drug, no symptoms were observed. In the acute case a woman had taken 12.45 gm. of tincture of opium, and all the threatening symptoms rapidly passed away and the patient promptly recovered under the serum treatment.

Centralblatt f. innere Medicin, Leipsic.

164 (1902, 29.) Cysten-Leber (liver) und Cysten-Nieren (kidneys). B. Boye.
165 (No. 30.) Ueber Schultermessungen (shoulder measurements) bei normalen Personen und über die diagn. Werth derselben bei Lähmungen resp. Neurosen der Schulter. A. Van der Minne und H. Zoehnlein.
166 (No. 31.) Zur Kenntniss gerinnungsalterirenden Eiweisskorper im Urin (coagulation-affecting albuminoids in urine) bei Pneumonie. J. Lochbihler.
167 (No. 32.) Ueber die Ausscheidungs- (elimination) Kurve of Ibid. R. Kun.
168 (No. 34.) Blutdruckmessungen (blood pressure) bei Morbus Basedowii. B. Spielhoff.
169 (No. 35.) Ueber das Wanderherz (heart). L. Braun.
170 (No. 37.) *Alimentäre Glykosurie und Levulosurie bei Erkrankungen der Leber (liver affections). L. Ferrannini.
171 (No. 41.) Beitrag zur Kenntniss der Melanine. D. Helman.
172 (No. 42.) *Fall von Intoxication durch Extractum hydrastis fl. Ibid durch Petroleum. Friedeberg.
173 (No. 43.) Die Entwickelung der chron. Tuberculose vom Standpunkte des Stoffwechsels (standpoint of metabolism). J. Mitelescu.
174 (No. 44.) *Influence of Contents of Large Intestine on Strychnin. W. Salant.—Ueber den Einfluss des Dickdarminhaltes auf Str.
175 (No. 45.) *Ueber die Behandlung des Ulcus ventriculi mit Oliven-Oel. K. Waiko.
176 (No. 46.) Fall von Oxal-Säure-Intoxication. R. Kobert.
177 (No. 47.) Besteht im Punktions-Flüssigkeit Autolyse? J. Schütz.
178 (No. 48.) Ueber die sekundäre Metameren der Gliedmassen (members). L. Ferrannini.
179 (No. 49.) *Ueber ein neurasthenisches Puls-Phenomenon. L. Braun.
180 (No. 50.) Bromoform-Intoxication bei einem 3-jährigen Kinde. E. Kiwull.
181 (No. 51.) *Beiträge zum klin. Studium der Anachlorhydrie. L. Ferrannini.

170. **Alimentary Glycosuria in Liver Affections.**—Ferrannini tested 16 patients with various affections of the liver by administering 100 gm. of grape sugar or levulose dissolved in 500 gm. water, sipped in the course of two or three hours. The grape sugar test failed in 5, including syphilitics or patients with chronic malaria, and 2 with icterus from stagnation. The levulose test resulted positively in all but one. The response to the levulose was much more pronounced than to the grape sugar and hence it is better adapted for tests of sugar elimination than the latter. In several cases he was unable to detect the sugar in the urine by the ordinary tests, but found that Reale's modification brought it out without fail. This is a preliminary procedure, after which the urine will react to the Trommer or other tests, to which it would not respond before. Reale's technic was described in the *Riforma Med.* in 1900. About 8 to 15 gm. of neutral lead acetate are dissolved in a goblet containing 65 to 130 c.c. of urine. The fluid is filtered until clear, and to 50 to 100 c.c. of the filtrate are added 5 to 10 gm. of ammonia. A thick precipitate collects on the filter in a few minutes, which is removed with the spatula and

dissolved in a few c.c. of an aqueous solution of 25 per cent. of sodium and 20 per cent. of sodium tartrate, after which the fluid is ready for the ordinary tests. In 7 out of the 10 positive grape sugar tests the sugar was not detectable until after the application of this Reale technic. On the other hand, this preliminary was needed in only 4 out of the 15 positive levulose tests. Ferrannini has previously pointed out the value of the information to be derived in regard to the bile-forming function of the liver by tests of the lipolytic faculty of the bile. The bile-forming function may be apparently normal in a severe case of atrophic cirrhosis of the liver, for instance, but tests of this lipolytic faculty will demonstrate that it is seriously impaired.

172. **Intoxications from Hydrastis and Kerosene.**—A woman took 9 gm. of hydrastis in a single dose. The circulation and nervous system were principally affected, the digestive tract suffering only secondarily. In the other case, after taking two swallows of kerosene, a catarrhal affection of the alimentary canal was noted, but even after its subsidence the patient, a man, complained that everything smelt and tasted of kerosene. No trace of it could be detected by the odor in the breath or urine after the first day, and the sensation of its presence must have been an autosuggestion.

174. **Influence of Intestinal Contents on Strychnin.**—Salant announces that the large intestine contains a mysterious something which is able to alter strychnin in such a way that it escapes all our present means of detecting it. If 1 mg. be mixed with the stomach contents of a rabbit it is easily recovered with the usual tests. Also when added to the contents of the small intestine. But if 1 mg. be mixed with the contents of the cecum or colon, it vanishes and can not be recovered by any known test. The strychnin also disappeared in the same mysterious way from the colon of rabbits ingesting strychnin after elimination of both kidneys.

175. **Treatment of Gastric Ulcer with Olive Oil.**—Walko has previously reported the excellent results obtained in cases of gastric hyperacidity by administration of 100 to 300 gm. of oil a day. The fat inhibits the secretion of hydrochloric acid, regulates the bowels and neutralizes the excess of acid. He has since applied the same treatment to gastric ulcer with great benefit. The oil, besides the advantages enumerated, forms a protecting coating over the ulcer, soothing the inflammation and promoting healing. The boring pains subside almost at once after ingestion of the oil. It is also indicated after a gastric hemorrhage as it is less liable than milk to detach a thrombus. He gives the oil by the tablespoonful in cases of fresh ulcers, rinsing the mouth afterward with some agreeable mouth wash, gradually increasing the amount of the oil to 50 c.c. three times a day. In case of excessive repugnance he pours it into the stomach through a tube. He continues the oil treatment for three to six days, avoiding all other feeding *per os* until the severest symptoms of the ulcer have subsided. He has observed 2 cases in which the symptoms recurred after operation, but subsided after ingestion of oil. The patients are relieved in the course of the first week and consequently this method of treating gastric ulcer is shorter than others. He has had an experience of 7 recent cases of ulcer treated by this means, supplemented by rest in bed, and 2 who were out-patients, coming daily for the oil. The same arguments apply also to ulcus duodeni, and it is possible that some of the ulcers may have been located in the duodenum. Another advantage of the oil is that carbohydrates can be allowed with it, as the secretion of HCl is checked. He has recently been combining bismuth with the oil and thinks that it may be possible to obtain in this way the advantages of both these methods of treating ulcus ventriculi.

179. **A Neurasthenic Pulse Phenomenon.**—Braun observes that the arrhythmia in neurasthenia is so irregular that it has no type, and is characteristic only in its entirety. The cause is probably the excessive instability of the vagus center that controls the action of the heart. The arrhythmia can be abolished by the action of atropin. If a neurasthenic subject reclines for a long time without moving, his pulse will become regular, but if he then exerts himself the arrhythmia rapidly returns. After the pulse has been made regular in this way, an injection of atropin will keep it regular even during exercises which would otherwise reproduce the irregularity. As the other signs of the effect of the atropin wear off the arrhythmia recurs.

181. **Treatment of Anachlorhydria on Gland Stimulating Basis.**—Ferrannini has noticed that the gastric motor and absorbing functions are unaltered as a rule in anachlorhydria. When they finally yield, malnutrition and autointoxication soon follow, but the subjective and reflex symptoms are those that first attract the patient's attention. The affection is mild so long as the intestine is able to compensate the deficient stomach function. Treatment is ordinarily merely symptomatic; HCl and pepsin, bitters and intestinal antiseptics are the main therapeutic reliance. The results are frequently remarkable successful, but when treatment is suspended the trouble returns. He thinks that more durable results might be realized by addressing treatment to stimulation of the glands, instead of combating the secondary symptoms. Among the means at our command with which we could directly stimulate the secretory glands, he has tried pilocarpin and strychnin and the results encourage further attempts in this line. He describes three cases thus treated. In the first a daily injection of 1 cg. of pilocarpin hydrochlorate increased the flow of saliva, but no effect on the stomach secretion was apparent for nineteen days. Then the proportion of free hydrochloric acid in the stomach contents rose from zero to .365 per 1,000. Eight days after the pilocarpin was suspended the proportion was still .9125 per 1,000, but it declined again later and could not be revived with strychnin. The strychnin alone in a second case brought the HCl up to .0205 per 1,000 in four days, dose 1 mg. of the sulphate. It remained for four days at this point, although the strychnin was suspended. The patient was then lost sight of. This treatment also reduced the proportion of organic acids, increased the proteolytic power and also improved the motor function. All symptomatic treatment is superfluous, as by removing the cause, stimulating the production of HCl, the secondary effects vanish with the restoration of the normal acidity.

Deutsches Archiv f. Klin. Medicin, Leipsic.

182 (LXXIV, 3-4.) *Das Verhalten des Blutdrucks (blood pressure) des jungen und des bejahrten Menschen bei Muskel-Arbeit (muscular exertion). E. Masing.
183 *Zur Kenntniss der path. Blutdruckveränderungen (variations in blood pressure) nach Beobachtungen von weiland Dr. H. Hensen. A. Veress.
184 Hydrotherapy and Blood Pressure. O. Müller.—Ueber den Einfluss von Bädern und Douchen auf den Blutdruck beim Menschen.
185 Ueber Alloxur-Ausscheidung (elimination). M. Kaufmann and L. Mohr.
186 *Zur Klinik und path. Anatomie des Stokes'schen Symptomen-Complex. H. Luce.
187 Zur Pathologie der Nieren (kidneys) bei den Magendarm-(gastrointestinal) Erkrankungen des Säuglings (infant). M. Hohlfeld.
188 (LXXIV, 5-6.) *Leukämie und Miliar-Tuberculose. H. Quincke.
189 Beiträge zur Kenntniss der cong. Syphilis der Leber (liver). P. Erdmann.
190 Zwei Fälle von Neuritis puerperalis traumatica. Schwenkenbecher.
191 Beitrag zur Lehre von der Chylurie. E. Waldvogel and A. Bickel. (Ebstein's clinic.)
192 Ueber gleichzeitiges Vorkommen von Malaria-Schwarzwasserfieber und Ankylostomiase. Mann (Munich).
193 *Ueber das Pancreas bei Leber- (liver) Cirrhose. F. Steinhaus.
194 Exp. Untersuchungen über Blutveränderungen (changes in blood) beim Venaesectio. H. v. Hoesslin.
195 Stoffwechselbeobachtungen (observations of metabolism) bei 5 Gicht- (gout) Kranken. M. Kaufmann and L. Mohr. (V. Noorden's clinic.)

182. **Blood Pressure During Muscular Exertion.**—The increase in the blood pressure with muscular exertion is less in proportion as the will power is less called on. Consequently the rise diminishes with practice. In the young the blood pressure remains high, but in the aged it frequently drops, even during the exercise. The heart in the aged tires very easily and reacts less promptly to stimuli than the heart of the young. This communication from Dehio's clinic reiterates his former assertions in regard to the loss of the contractile tissue in the heart as age advances, producing in time what he calls senile myofibrosis, the cause of the phenomena referred to.

183. **Blood Pressure in Disease.**—Gross states that in examining 6 patients with Basedow's disease the blood pressure

was found high and variable. It is possible that certain products of abnormal metabolism act as a poison on the heart and vessels. He also notes the fact that iodothyrin has no pressure-raising action. In 5 subjects with chronic nephritis the blood pressure was also permanently above normal, but it showed marked fluctuations at this abnormal level. It was exceptionally high as symptoms of uremia developed, and fell as they subsided. This fact explains the benefit from venesection in such cases. Laqueur has reduced the blood pressure in uremia by wet packs, but Gross has succeeded by acting on the intestines and by sweats. A pressure-raising poison may be similarly responsible for the phenomena of uremia.

186. **Stokes' Symptom-Complex.**—Luce asserts that the Adams-Stokes syndrome may appear in conjunction with any organic or functional heart affection, and is not necessarily dependent on arteriosclerosis. He describes a case in which it had been induced by a primary sarcoma in the upper third of the septum ventriculorum, exhibiting the rare phenomenon of a bilateral cardiac stenosis. There were no metastases except in the immediate vicinity, but both vagi were in an advanced stage of partial parenchymatous degeneration, evidently the result of the organic lesion in the heart. Dissection of the heart also showed that the peripheral terminals of the vagi passed directly to the musculature of the ventricles, without ganglia, and demonstrated the dependence of the heart muscle on the vagi for its trophic condition. Bradycardia observed in cases of bilateral degeneration of the cardiac vagi, of central or peripheral origin, confirms the assumption of a myogenic automatism in the heart. This myogenic or neurogenic bradycardia may be regarded as the expression of an altered functional condition of the heart muscle. Deficient nourishment, general dyscrasias, toxic or infectious, and nervous influencing of the heart muscle may promote such a condition. The case also shows that complete destruction of the upper third of the septum ventriculorum or its substitution by a new growth, may occur without affecting the rhythm of the ventricular beat. On the other hand, it is possible for the rhythm of this beat to be influenced by the loss of influences emanating from the auricles. The bradycardia of cardiogenic or neurogenic origin is the essential element in the Adams-Stokes syndrome. The nervous symptoms may vary and are merely the expression of the indirect reaction of the central nervous system, especially of the medulla oblongata, to the disturbances in the circulation occasioned by the slowing of the rhythm of the heart beat. The monograph concludes with the statement that tumors of the heart do not present any characteristic clinical picture.

188. **Leukemia and Miliary Tuberculosis.**—Three cases of acute miliary tuberculosis superposed on leukemia are reported by Quincke as interesting examples of the modification of one disease by another. As certain other infectious diseases have a similar influence on leukemia we may assume, he remarks, that the microbes generate substances or induce the cells to generate them under their influence, which have a destructive action on the leucocytes in blood and spleen. We see here the reverse phenomenon to hyperleucocytosis and spleen enlargement—we can watch the subsidence of the hyperleucocytosis and the shrinking of the spleen, analogous to what we observe during convalescence from an acute disease, or during retrogression of a lymphoma or sarcoma under arsenic treatment or spontaneously. Lazarus has shown that in the course of ordinary leukemia there is a constant and fairly rapid destruction of the white cells, but that they are being constantly reproduced. This reproduction was checked by the miliary tuberculosis, as may also occur from administration of arsenious acid. The unmistakable influence of the miliary tuberculosis in these cases suggests that we might possibly be able to exert a favorable influence on the course of leukemia by administering tuberculin in which we have the tuberculosis toxins in a dosable and convenient form. Quincke has treated 6 patients on this principle, injecting doses gradually increased from 1 to 60 mg. Three of the 6 patients gave a typical tuberculosis reaction. The others did not react except to large doses. The treatment was continued for four weeks, and the leucocytes diminished by 25 to 50 per cent. In 2 the spleen also diminished in size and the general health improved. Arsenic was administered at the same time, and consequently the cases are no criterion of what tuberculin might accomplish alone. He would not advise it unless the patients were in fair general condition and the alterations in the organs not too far advanced. Under these circumstances we are certainly justified in giving tuberculin a trial as we are still so impotent in this disease.

193. **The Pancreas in Cirrhosis of the Liver.**—In 12 cases of cirrhosis of the liver that came to autopsy, a distinct proliferation of the interstitial tissue in the pancreas was evident in all but one; Langerhans' islands were intact in 11. The diminished tolerance of sugar, frequently observed in the course of cirrhosis of the liver, consequently must be due to alterations in the pancreas. The glycosuria accompanying cirrhosis of the liver, pancreas diabetes, arteriosclerotic diabetes, etc., are thus shown to have a common origin. All are due to some functional disturbance in the pancreas and confirm the assumption that this organ alone has charge of the sugar consumption in the organism.

Sei-I-Kwai, Tokio, Japan.

196 (XXI, 9-10.) On the Physiological Variation of Breath Sounds at the Apices of the Lungs. K. Takata. (In English.)

197 On the Advantages of the Prophylactic Inoculation Against Hydrophobia with the Virus Which Has Been Weakened by Heat. T. Oshida. (In English.)

198 (No. 11.) *Prevention of Plague. T. K. Tsukiyama. (In English.)

198. **Effectual Extirmination of the Plague.**—Tsukiyama is chief of the National Board of Health in Japan, and he proclaims that it is possible to exterminate the plague in infected cities and reports how it was done in four cities in his country. In one, Tainan, the plague has had a foothold for seven years. In the other towns the epidemic was arrested within a few months. In Tainan there were 11 cases to each 1,000 inhabitants in 1897, 32 in 1899, 24 in 1901, and only 1/22 per 1,000 in 1902. The main prophylaxis is the extermination of the rats. He states that 327,079 rats have been examined; 81,018 were caught in Tainan alone last year. Out of 14,975 examined, 172 were found infected with the plague. All these rats were caught with a simple contrivance which he illustrates. It consists merely in two smooth round bowls. The diameter of the larger one is about four times the length of the body of a rat, judging from the cuts. They are both inverted on the floor, and one edge of the smaller bowl is raised on a piece of cake. The larger bowl rests with one edge on the floor and the opposite edge on the rounding bottom of the small bowl, where it is raised on the cake. As the rat nibbles the cake the smaller bowl tottles and the larger bowl slides down to the floor, imprisoning the animal. To catch the rat one edge of the bowl is slightly raised, when the tail can be grasped. The article states that some Japanese prefer a well-cooked rat to a fish, but the infection of the family of a certain government official was traced to eating a rat, and the practice is now abandoned.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other Than Drug-Giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D., Senior Assistant Professor of Clinical Medicine in Jefferson Medical College. Volume V. Prophylaxis—Personal Hygiene—Civic Hygiene—Care of the Sick. By Joseph McFarland, M.D., Henry Leffmann, M.D., Albert Abrams, A.M., M.D., and W. Wayne Babcock, M.D. Illustrated. Cloth. Pp. 539. Price, $27.50 per set. Philadelphia: P. Blakiston's Son & Co. 1903.

THE PRACTICAL MEDICINE SERIES OF YEAR-BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume III. The Eye, Ear, Nose and Throat. Edited by Casey A. Wood, C.M., M.D., Albert H. Andrews, M.D., and T. Melville Hardie, A.M., M.D. December, 1902. Cloth. Price, $1.50. Chicago: The Year-Book Publishers.

CANCER AND OTHER TUMORS OF THE STOMACH. By Samuel Fenwick, M.D., F.R.C.P., Consulting Physician to the London Hospital, and W. Soltau Fenwick, M.D. Lond., M.R.C.P., Senior Physician to the London Temperance Hospital. Cloth. Pp. 362. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1903.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume XX. Edited by Richard H. Harte, M.D., Recorder of the Association. Cloth. Pp. 571. Printed for the Association. Philadelphia: Wm. J. Dornan. 1902.

SEVENTH BIENNIAL REPORT OF THE BOARD OF TRUSTEES OF THE DELAWARE STATE HOSPITAL at Farnhurst, December, 1902. Paper. Pp. 91. Wilmington, Del.: Sunday Star Print. 1902.

COMPLETE LIST OF THE OFFICERS AND FELLOWS OF THE AMERICAN SURGICAL ASSOCIATION. Together with an Alphabetically Arranged Index of Vols. I-XX. Paper. Pp. 71.

New Patents.

Patents of interest to Physicians, Jan. 6 and 13:

718053. Water bag. Thomas Gregory, Akron, Ohio.
717898. Stethoscope or the like. Richard P. McCully, Brooklyn.
717612. Surgical chair. Charles H. Patrick, Chicago.
717764. Thermometer case. Theodore Sandhop and E. Diemar, New York.
718421. Hernial truss pad. Dudley Brisky, Milltown, Ala.
718339. Surgical splint. Andrew W. Graham, Bradford, Pa.
718202. Fountain syringe. James Hardman, Jr., Belleville, N. J.
718470. Respirator. Harold E. Jones, Racine, Wis.
718142. Cautery. John P. Muller, New York.
718149. Abdominal truss. Henry W. Pell, Rome, N. Y.
718384. Retinoscope. Wm. H. Reisner, Hagerstown, Md.
718170. Massage implement. Mary A. Sullivan, New York.
718400. Inhaler. Clarence W. Taylor, Sioux City, Iowa.
718408. Truss pad. Wm. C. Wetmore, Buffalo.

The Public Service.

Army Changes.

Movements of officers of the Medical Department, U. S. Army, under orders from the Adjutant General's Office, Washington, D. C., from Jan. 12 to 17, 1903:

Bloomberg, Horace D., first lieut. and asst.-surgeon, U. S. A., is granted leave of absence for one month, on being relieved from duty at the U. S. General Hospital, Fort Bayard, N. M.

Daywalt, George W., contract surgeon, U. S. A., now in Washington, D. C., will proceed to Fort Schuyler, N. Y., and report in person to the commanding officer of that post for duty and by letter to the commanding general, Department of the East, to relieve First Lieut. Theodore C. Lyster, asst.-surgeon, U. S. A., who, on being relieved, will proceed to West Point, N. Y., and report in person to the superintendent of the U. S. Military Academy for duty.

Kirkpatrick, Thomas J., captain and asst.-surgeon, U. S. A., is granted leave of absence, to take effect on his relief from duty at Ft. Barrancas, Fla.

Maxwell, Samuel A., contract surgeon, U. S. A., is relieved from duty at Fort Grant, Ariz., and will proceed to San Francisco, and report in person to the commanding general, Department of California, for transportation to the Philippine Islands, where he will report in person to the commanding general, Division of the Philippines, for assignment to duty.

Norman, Seaton, major and surgeon, U. S. V., now at San Francisco, will proceed to his home, where he is authorized to await his honorable discharge from the service of the United States, Feb. 1, 1903.

O'Neill, Joseph A., contract surgeon, U. S. A., will, on the expiration of his present leave of absence, proceed to San Francisco, and report in person to the commanding general, Department of California, for transportation to Manila, Philippine Islands, and on his arrival in Manila will report in person to the commanding general, Division of the Philippines, for assignment to duty.

Turnbull, Wilfrid, first lieut. and asst.-surgeon, U. S. A., having reported his arrival in San Francisco, will proceed to Fort Myer, Va., and report in person to the commanding officer of that post for duty.

Wood, Halsey L., contract surgeon, U. S. A., is relieved from further duty on the transport Warren and will proceed to Vancouver Barracks, Wash., and report in person to the commanding general, Department of the Columbia, for assignment to duty.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended January 17:

P. A. Surgeon H. H. Haas, ordered home via *Prairie*.

P. A. Surgeon J. E. Page, detached from the *Newark* and ordered to the *Montgomery*.

P. A. Surgeon F. L. Benton, detached from duty with recruiting party, ordered to Washington, for assignment with battalion of marines, leaving for the Philippines.

Drs. R. L. Taylor, W. P. Keene, D. E. McCord and W. H. Janney, appointed acting assistant surgeons for three years' service.

P. A. Surgeon C. A. Crawford, resignation accepted, to take effect Jan. 12, 1903.

Drs. R. B. Chapman, H. W. Judd, J. T. Miller and R. A. Campbell, appointed acting assistant surgeons for three years' service.

A. A. Surgeon D. P. McCord, ordered to Lansing, Mich., for duty with recruiting party.

A. A. Surgeon R. L. Taylor, ordered to Ogden, Utah, for duty with recruiting party.

P. A. Surgeon W. H. Bucher, detached from Naval Hospital, Norfolk, Va., and ordered to Naval Hospital, Pensacola, Fla.

Pharmacist F. T. Gordon, ordered to the Naval Dispensary, Washington, D. C., for duty.

Asst.-Surgeon R. E. Ledbetter, detached from the *Illinois* and ordered to the *Newark*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 15, 1903:

Assistant Surgeon-General J. H. White, to proceed to Brunswick, Ga., for special temporary duty.

Surgeon H. R. Carter, leave of absence for three days under Paragraph 179 of the regulations, amended so that it shall be for two days only.

P. A. Surgeon G. M. Guiteras, to report to chairman of board of examiners at Washington, D. C., Jan. 15, 1903, for examination to determine his fitness for promotion to the grade of surgeon.

P. A. Surgeon J. H. Oakley, granted leave of absence for two days from January 21.

P. A. Surgeon C. H. Lavinder, granted leave of absence for one month from January 28.

A. A. Surgeon B. F. Duke, granted leave of absence for ten days from January 4.

A. A. Surgeon W. S. Walkley, granted leave of absence for five days from January 13.

BOARDS CONVENED.

Board convened at Washington, D. C., Jan. 15, 1903, for the examination of P. A. Surgeon G. M. Guiteras to determine his fitness for promotion to the grade of surgeon. Detail for the board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General W. J. Pettus; Assistant Surgeon-General G. T. Vaughan, recorder.

Board convened at the Marine Hospital, Stapleton, N. Y., Jan. 17, 1903, for the physical examination of Engineer D. F. Bowen, R. C. S. Detail for the board: P. A. Surgeon A. C. Smith, chairman; Asst.-Surgeon A. J. McLaughlin, recorder.

Board convened at the Marine Hospital, San Francisco, Jan. 19, 1903, for the physical examination of officers of the Revenue Cutter Service. Detail for the board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-Surgeon C. W. Vogel, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Jan. 17, 1903:

SMALLPOX—UNITED STATES.

California: Sacramento, Dec. 27-Jan. 3, 1 case.
Colorado: Denver, Dec. 27-Jan. 3, 7 cases.
Connecticut: Thompson, Jan. 10, 1 case.
Florida: Pensacola, Dec. 6-Jan. 10, 49 cases.
Georgia: Atlanta, Dec. 24-Jan. 7, 14 cases, 3 deaths.
Illinois: Chicago, Jan. 3-10, 6 cases.
Indiana: Evansville, Jan. 3-10, 1 case; Indianapolis, Dec. 27-Jan. 10, 95 cases, 16 deaths.
Kentucky: Covington, Nov. 27-Jan. 10, 82 cases, 2 deaths; Newport, Jan. 3-10, 2 cases.
Louisiana: New Orleans, Jan. 3-10, 1 case.
Maine: Biddeford, Jan. 3-10, 7 cases; Boston, Jan. 2-9, 10 cases, 3 deaths; Cambridge, Jan. 3-10, 2 cases; Fall River, Jan. 3-10, 2 cases; Lowell, Jan. 3-10, 1 case.
Michigan: Detroit, Dec. 27-Jan. 10, 78 cases; Grand Rapids, Jan. 3-10, 18 cases.
Missouri: St. Louis, Dec. 28-Jan. 4, 9 cases, 1 death.
Nebraska: Omaha, Jan. 3-10, 11 cases.
New Hampshire: Jan. 3-10, Manchester, 2 cases; Nashua, 3 cases.
New Jersey: Camden, Jan. 3-10, 3 cases; Newark, Dec. 27-Jan. 10, 1 case, 1 death.
New York: Jan. 3-10, Buffalo, 2 cases; New York, 1 case.
Ohio: Cleveland, Jan. 3-10, 9 cases, 2 deaths; Dayton, Jan. 3-10, 2 cases; Toledo, Dec. 27-Jan. 10, 26 cases, 1 death.
Pennsylvania: Altoona, Jan. 3-10, 2 cases, 2 deaths; Erie, Jan. 3-10, 10 cases, 1 death; Johnstown, Dec. 27-Jan. 10, 2 cases, 1 death; McKeesport, Jan. 3-10, 1 case; Northumberland, Dec. 1-30, 14 cases; Philadelphia, Jan. 3-10, 33 cases; Pittsburg, Jan. 3-10, 22 cases, 1 death; Reading, Jan. 5-12, 1 case.
Tennessee: Memphis, Jan. 3-10, 1 case.
Utah: Salt Lake City, Dec. 27-Jan. 3, 10 cases.
Wisconsin: Milwaukee, Jan. 3-10, 5 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 6-20, 25 cases.
Barbados: Dec. 5-26, 2 deaths.
Belgium: Antwerp, Dec. 6-20, 10 cases, 3 deaths; Brussels, Dec. 13-20, 1 death.
Canada: Winnipeg, Dec. 27-Jan. 3, 1 case.
France: Paris, Dec. 13-20, 1 death.
Great Britain: Cardiff, Dec. 20-27, 1 case; Dublin, Dec. 20-27, 1 case; Dundee, Dec. 13-27, 2 cases; Leeds, Dec. 20-27, 3 cases; Liverpool, Dec. 20-27, 74 cases, 1 death; London, Dec. 13-20, 5 cases; Manchester, Dec. 13-27, 7 cases; Sheffield, Dec. 13-27, 8 cases.
India: Bombay, Dec. 2-9, 7 deaths; Calcutta, Nov. 27-Dec. 6, 2 deaths.
Mexico: City of Mexico, Dec. 28-Jan. 4, 2 cases, 5 deaths.
Russia: Moscow, Dec. 6-13, 2 deaths; Odessa, Dec. 6-20, 7 cases, 2 deaths; St. Petersburg, Dec. 13-20, 24 cases, 2 deaths.

YELLOW FEVER.

Mexico: Tampico, Dec. 27-Jan. 3, 10 deaths; Tuxpam, Dec. 23-30, 1 death; Vera Cruz, Dec. 27-Jan. 3, 6 cases, 2 deaths.

CHOLERA.

India: Bombay, Dec. 2-9, 1 death; Calcutta, Nov. 27-Dec. 6, 51 deaths.
Java: Batavia, Nov. 22-29, 6 cases, 2 deaths.

PLAGUE.

India: Bombay, Dec. 2-9, 133 deaths; Calcutta, Nov. 28-Dec. 6, 25 deaths; Karachi, Nov. 30-Dec. 7, 12 cases, 11 deaths.
Mexico: Ensanada, to date, 14 cases, 13 deaths; Masatlan, Dec. 31, officially reported.